# THE
# PROSOBRANCHIA OF THE SIBOGA EXPEDITION

## PART II

## TAENIOGLOSSA AND PTENOGLOSSA

Siboga-Expeditie
XLIX[1]b

# THE PROSOBRANCHIA OF THE SIBOGA EXPEDITION

BY

M. M. SCHEPMAN
Rhoon (Holland)

PART II

## TAENIOGLOSSA AND PTENOGLOSSA

With 6 plates

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PART II

# TAENIOGLOSSA AND PTENOGLOSSA

This part contains the enumeration of about 340 species, of which 39 have been described as new to science, moreover a few varieties have been described and partly figured. By comparing these numbers to those of the first part, it is evident that this first part was more interesting, the groups now under consideration not being composed of so many deep water forms, and it is amongst those, as might be expected, that the most interesting species are to be found, as for instance in the genera *Morio*, *Oocorys*, *Seguenzia*.

I have to thank again Mr. E. A. SMITH for his assistance in comparing doubtful species also Messrs. J. COSMO MELVILL, PH. DAUTZENBERG, E. R. SYKES and others, for assistance, loan of specimens or litterature.

I must repair a few errata in the first part, which I discovered in returning the materials:

p. 10. var. *strigillata* belongs to *N. turrita* not to *variegata*.

p. 13. the *Neritilidae* must follow after *Septaria*, which belongs to the *Neritidae*.

p. 71. for *Euchelus intricatus* Gould read *Euch. instrictus*.

Section Taenioglossa Troschel.

Fam. Aquillidae Pilsbry.

**Aquillus** Montfort.

1. *Aquillus (Lampusia) pilearis* Linné.

Linné. Syst. Nat. Ed. X, p. 749, N° 458.
Rumph. Amb. Rariteitkamer, p. 96, Pl. 29, fig. H.
Kiener. Coq. Viv. Vol. VI, Triton, p. 15, Pl. 7, fig. 1.
Reeve. Conch. Ic. Vol. II, Triton, fig. 23.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 196, Pl. 42, fig. 3, 4; Pl. 56, fig. 4.
Tryon. Man. of Conch. Vol. III, p. 12, Pl. 6, fig. 31—33, 35, 36.

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. Shore. 2 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coarse sand. 1 Spec.
Stat. 172. Gisser. Reef. 1 Spec.

Kesteven (Proc. Linn. Soc. N. South Wales, 1902, p. 476) says that according to Hanley, (Ipsa Linnaei Conchylia, p. 287) the name *pilearis* should be applied to the Mediterranean *Triton corrugatus* Lam., and that the species under consideration should bear the name *aquatilis* Reeve, uniting it, in accordance with Tryon etc. with *aquatilis*. As Linné says: "Habitat in M. Mediterraneo", this view may be in so far right. But Troschel (Gebiss der Schnecken I, p. 234) has observed small differences in the radulae of *Simpulum pilearis* Lin. (l. c. Pl. 20, fig. 3) and *S. aquatile* Reeve (l. c. Pl. 20, fig. 4) so I have left the name *pilearis* to the species generally known under this nomination.

2. *Aquillus (Lampusia) aquatilis* Reeve.

Reeve. Conch. Ic. Vol. II, Triton, fig. 24.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 162, Pl. 42, fig. 7, 8.
Tryon. Man. of Conch. Vol. III, p. 12, Pl. 6, fig. 34 (*pilearis*).

Stat. 225. South-Lucipara-island. Reef. 1 Spec.

As already stated, Pilsbry unites this form with the preceding species as a synonym, as he finds no characters by which to separate them. I have never found difficulty in distinguishing this species.

3. *Aquillus (Lampusia) rubecula* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 749, N$^0$ 459.
KIENER. Coq. Viv. Vol. VI, Triton, p. 20, Pl. 18, fig. 2.
REEVE. Conch. Ic. Vol. II, Triton, fig. 29.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 159, Pl. 41, fig. 3—11.
TRYON. Man. of Conch. Vol. III, p. 12, Pl. 7, fig. 40.

Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

The specimen is still very young, uniformly red.

4. *Aquillus (Lampusia) gemmatus* Reeve.

REEVE. Conch. Ic. Vol. II, Triton, fig. 60.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 220, Pl. 61, fig. 7, 8.
TRYON. Man. of Conch. Vol. III, p. 13, Pl. 7, fig. 41—44.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 240. Banda. Reef. 1 Spec.
Stat. 304. Lamakera, Sulor-island. Reef. 1 Spec.

The specimens from Lamakera and Bima are quite typical, corresponding to REEVE's figures 60*a* and *b*. That from Banda is yellowish, with a few brown bands, calling in mind some varieties of the preceding species, but there the dark colour occupies the interstices of the spiral lirae, whereas in the specimen of *gemmatus* the dark colour runs over the lirae. In sculpture I see no difference with the other specimens.

5. *Aquillus (Turritriton) labiosus* Wood, var. *orientalis* Nevill.

NEVILL. Journ. Asiat. Soc. Beng. Vol. 43, 1874, p. 29.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 261, Pl. 69, fig. 8.
TRYON. Man. of Conch. Vol. III, Triton, p. 17, Pl. 9, fig. 68.

Stat. 40. Pulu Kawassang, Paternoster-islands. Coralreef. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 60. Haingsisi, Samau-island. Lithothamnion-bank. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. Lithothamnion-bank. 1 Spec.
Stat. 285. South coast of Timor. 34 M. Lithothamnion. 1 Spec.

Some of the specimens are too young, to decide with certainty if they belong to the variety *orientalis* Nev., as however the larger specimens are not doubtful, I think they ought to be all placed here.

6. *Aquillus (Turritriton) vespaceus* Lamarck?

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 636.
KIENER. Coq. Viv. Vol. VI, Triton, p. 18, Pl. 3, fig. 2.
REEVE. Conch. Ic. Vol. II, Triton, fig. 61.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 179, Pl. 52, fig. 3.
TRYON. Man. of Conch. Vol. III, p. 22, Pl. 12, fig. 94, 95.

Stat. 37. Sailus-Ketjil, Paternoster-islands. Up to 27 M. Coral and coralsand. 1 Spec.

The identification is rather uncertain, the shell is nearly allied to the specimens of *A. vespaceus* I could compare, though I found no quite identical specimen. As the species seems to be very variable, I think it is not safe to erect a new species on one small specimen.

7. *Aquillus (Turritriton) elongatus* Reeve, var.

REEVE. Conch. Ic. Vol. II, Triton, fig. 59.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 208, Pl. 58, fig. 9.
TRYON. Man. of Conch. Vol. III, p. 22, Pl. 12, fig. 96.

Stat. 37. Sailus-Ketjil, Paternoster-islands. 27 M. Coral and coralsand. 1 Spec.
Stat. 43. Pulu Sarassa, Postillon-islands. 36 M. Coral. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.

These specimens are also of somewhat doubtful identification, they don't quite agree with REEVE's description, a. o. I see no livid purple ridges, the specimens seem to be more nodulous; but the shape with the long canal agree; so I have united them as a slight variation. TRYON considers this and the next species, to be forms of *A. vespaceus*.

8. *Aquillus (Turritriton) gracilis* Reeve.

REEVE. Conch. Ic. Vol. II, Triton, fig. 58.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 243, Pl. 67, fig. 5.
TRYON. Man. of Conch. Vol. III, p. 22, Pl. 12, fig. 97, 98.

Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 4 Spec.
Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 2 Spec.

The specimens from Stat. 273 are whitish, with a few brown lines, the canal is shorter than in the type, but seems to be slightly broken.

9. *Aquillus (Turritriton) Pfeifferianus* Reeve.

REEVE. Conch. Ic. Vol. II, Triton, fig. 14.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 194, Pl. 55, fig. 4, 5.
TRYON. Man. of Conch. Vol. III, p. 23, Pl. 13, fig. 107.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 13—54 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 49ª. Sapeh-strait. 69 M. Coral and shells. 1 Spec.
Stat. 71. Makassar and surroundings. 32 M. Mud, sand with mud. 1 Spec.
Stat. 77. Borneo-bank. 59 M. Fine grey coralsand. 3 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.

The majority of the specimens is very young.

10. *Aquillus* sp.

Several young specimens, too young for identification, from Stat. 37, 240 and 315, seem to belong to one or at least to nearly allied species; another from Stat. 225 is certainly different, but though larger, I cannot identify it with the upper whorls of any of the species I could compare.

11. *Aquillus (Gutturnium) grandimaculatus* Reeve.

REEVE. Conch. Ic. Vol. II, Triton, fig. 20.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 183, Pl. 54, fig. 4.
TRYON. Man. of Conch. Vol. III, p. 19, Pl. 10, fig. 76.

Stat. 99. North-Ubian, Sulu-archipelago. 16—23 M. Lithothamnion-bottom. 1 Spec.

The only specimen is still young, but perfectly agrees in sculpture with the upper whorls of an adult specimen from the Philippines. TRYON considers it to be the same as *T. lotorium* Lin., he says: "the distinctive characters are individual only". As far as I can judge, I think the differences of sculpture are sufficient to separate them specifically. The young shell is covered by a thin epidermis with long bristles on the radiating ribs and varices.

12. *Aquillus (Gutturnium) tuberosus* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 635.
RUMPH. Amb. Rariteitkamer, p. 82, Pl. 24, fig. H.
KIENER. Coq. Viv. Vol. VI, Triton, p. 12, Pl. 14, fig. 2.
REEVE. Conch. Ic. Vol. II, Triton, fig. 1*b*.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 204, Pl. 58, fig. 5.
TRYON. Man. of Conch. Vol. III, p. 23, Pl. 13, fig. 112.

*Island Enkhuizen near Batavia. 1 Spec.

The juvenile specimen belongs to the whitish variety, represented by the quoted figures.

## Distortrix Link.

1. *Distortrix anus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 750, N$^0$ 463.
RUMPH. Amb. Rariteitkamer, p. 82, Pl. 24, fig. F.
KIENER. Coq. Viv. Vol. VI, Triton, p. 22, Pl. 15, fig. 1.
REEVE. Conch. Ic. Vol. II, Triton, fig. 44.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 198, Pl. 57, fig. 1, 2.
TRYON. Man. of Conch. Vol. III, p. 35, Pl. 17, fig. 173, 174; Pl. 15, fig. 153.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

2. *Distortrix cancellinus* Roissy.

ROISSY. Buffon, Moll. 6, p. 56, N$^0$ 12.
KIENER. Coq. Viv. Vol. VI, Triton, p. 21, Pl. 14, fig. 1 (*clathratrum*).
REEVE. Conch. Ic. Vol. II, Triton, fig. 45.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 200, Pl. 57, fig. 5, 6.
TRYON. Man. of Conch. Vol. III, p. 35, Pl. 17, fig. 175.

Stat. 1. 1400 M. distant from reef "Zwaantjes-droogte", Madura-strait. 37 M. Grey mud with small broken shells. 1 Spec.
Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud, with patches of fine coralsand. 1 Spec.

Stat. 184. Off Kampong Kelang, South coast of Manipa-island. 36 M. Coral, sand. 1 Spec.
Stat. 282. Between Nusa Besi and N.E. point of Timor. 27—54 M. Sand, coral and Lithothamnion. 1 Spec.
Stat. 294. 10° 12'.2 S., 124° 27'.3 E. Timor Sea. 73 M. Soft mud with very fine sand. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The specimens are young, especially the youngest ones are covered by an epidermis with long bristles.

## Gyrineum Link.

1. *Gyrineum gyrinum* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 748, N$^0$ 453.
KIENER. Coq. Viv. Vol. VI, Ranella, p. 28, Pl. 2, fig. 3 (*ranina*).
REEVE. Conch. Ic. Vol. II, Ranella, fig. 49.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 152, Pl. 40, fig. 4—6.
TRYON. Man. of Conch. Vol. III, p. 43, Pl. 23, fig. 48.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 47$^a$. Off Batu Putih, entrance of Bay of Bima. Shore. 1 Spec.
Stat. 123. North-bay, Biaru-island. 36—27 M. Stone and Lithothamnion-bottom. 1 Spec.
Stat. 174. Waru-bay, North coast of Ceram. Reef. 1 Spec.
Stat. 322. South of Tandjong-Lajar, South coast of Bawean. 32 M. Coral. 1 Spec.

2. *Gyrineum bituberculare* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. 9, p. 548.
KIENER. Coq. Viv. Vol. VI, Ranella, p. 26, Pl. 6, fig. 2.
REEVE. Conch. Ic. Vol. II, Ranella, fig. 40.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Ranella, p. 153, Pl. 39*a*, fig. 9, 12.
TRYON. Man. of Conch. Vol. III, p. 42, Pl. 23, fig. 44.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 2 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula-Besi. Reef. 1 Spec.
Stat. 285. South coast of Timor. 34 M. On the limit between mud and coral. Lithothamnion. [2 Spec.
Stat. 296. Noimini, South coast of Timor. 8—36 M. Sandy mud. 1 Spec.
Stat. 313. East of Dangar-Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.
Stat. 318. 6° 36'.5 S., 140° 55'.5 E. Java Sea. 88 M. Fine, yellowish-grey mud. 1 Spec.

The specimens from Stat. 116 and 285 are young and have a somewhat misleading appearance, by the closer sculpture. However the species is very variable in this respect, and these specimens are connected to more typical ones by intermediate forms, f. i. those from Stat. 313. TRYON says on this subject (l. c. p. 43): "The tubercles are numerous on the earlier whorls, but (in some instances) coallesce into two large ones between the varices on the last whorl of the adult. When the more numerous tubercles are persistent, the resemblance to the next species (*R. tuberculata*) is striking".

3. *Gyrineum cuspidatum* Reeve. Pl. XV, fig. 7.

REEVE. Conch Ic. Vol. II, Ranella, fig. 48.
TRYON. Man. of Conch. Vol. III, p. 43, Pl. 23, fig. 49.

Stat. 51. Madura-bay. 69—91 M. Fine, grey sand; coarse sand with shells and stones. 1 Spec.
Stat. 123. North-bay, Biaru-island. 36—27 M. Stone and Lithothamnion-bottom. 1 Spec.
Stat. 315. East of Sailus-Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

The specimen from Stat. 315 is young, but agrees sufficiently with the other specimens to be identified. The long and slender radula, has the teeth in about 108 transverse rows. The rhachidian tooth (R) has a subquadrangular body with the sides strongly excavated in the posterior half, posterior margin much shorter than the anterior one; the cusp has 5 denticles, of which the median one is the largest; the lateral tooth (1) has an oblong shape with a large denticle on the proximal side of the cusp and three smaller distal ones; the uncini (U) are hooked, slender, the first one with a small denticle on the proximal side, only visible by the transparency of the teeth. The construction of the radula, proves that DALL, in his paper (An historical and systematic review of the Frog-shells and Tritons; Smiths, Miscell. Coll. Vol. 47, 1905, p. 114—144) is right in calling the species united as *Gyrineum*, the nearest allies of *Aquillus*. He mentions only the radula of *Ranella (Apollon) argus* Lam., described by TROSCHEL, (Gebiss der Schnecken, Vol. I, pl. 20, fig. 11) which is conchologically a somewhat peculiar species; really the radula now under consideration, shows more resemblance to those of *Tritonium femorata* Lin. (l. c. fig. 2) and of *T. pileare* Rve (l. c. fig. 3), the most typical difference being the narrow posterior basal margin.

4. *Gyrineum pusillum* Broderip.

BRODERIP. Proc. Zool. Soc. Lond. 1832, p. 194.
REEVE. Conch. Ic. Vol. II, Ranella, fig. 44.
TRYON. Man. of Conch. Vol. III, p. 44, Pl. 24, fig. 56, 57.

Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 1 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 60. Haingsisi, Samau-island. Lithothamnion-bank. 1 Spec.
Stat. 144. North of Salomakiëe-(Damar)-island. 45 M. Coral bottom and Lithothamnion. 1 Spec.
Stat. 154. 0°7'.2 N., 130°25'.5 E. Halmahera Sea. 83 M. Grey muddy sand, shells and Lithothamnion. 1 Spec.
Stat. 162. Between Loslos and Broken-islands. W. coast of Salawatti. 18 M. Coarse and fine sand, with clay and shells. 1 Spec.
Stat. 164. 1°42.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 2 Spec.
Stat. 204. Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.
Stat. 260. Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.
Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

This species is very variable in colour and also in sculpture; the specimen from Stat. 144 is yellow, and has the spiral lirae scarcely developed on the lower whorls; if this character be not individual, it might give right to a varietal name.

5. *Gyrineum (Biplex) perca* Perry (Pl. X, fig. 1, var. *aculeata* n. var.)

PERRY. Conch. Pl. 4, fig. 5.
KIENER. Coq. Viv. Vol. VI, Ranella, p. 8, Pl. 6, fig. 1 (*pulchra*).
REEVE. Conch. Ic. Vol. II, Ranella, fig. 47 (*pulchra*).
TRYON. Man. of Conch. Vol. III, p. 43, Pl. 23, fig. 51 (*pulchra*).

Stat. 95. 5°43′.5 N., 119°40′ E. Sulu Sea. 522 M. Stony bottom. 1 Spec.
Stat. 289. 9°0′.3 S., 126°24′.5 E. Timor Sea. 112 M. Mud, sand and shells. 3 Spec.

The specimen from Stat. 95 is a worn, broken shell, but quite typical in shape, with two tubercles between the varices. Those from Stat. 289 are small, with 3 or 4 rows of numerous tubercles in each of the upper whorls; they are still more characterised by having distinct spines, only connected at their foot, instead of the broad wings with short spines, characteristic for the type. As the number of recent specimens I could compare, is restricted, I have not described this form as a new species. If the spinous character proves to be constant, it may be called var. *aculeata*. I have provisionally distinguished it under that name.

6. *Gyrineum (Biplex) pulchellum* Forbes.

FORBES. Voy. of the "Rattlesnake", Vol. II, p. 382, Pl. 3, fig. 6*a*, *b*.
E. A. SMITH. Zool. Coll. of H. M. S. "Alert", p. 56.

Stat. 162. Between Loslos and Broken-islands. W. coast of Salawatti. 18 M. Coarse and fine sand with clay and shells. 1 Spec.

Only one broken shell, which agrees in every respect with my specimen from Torres-strait. TRYON has only mentioned it in his register, as a synonym of *G. perca*, but not in his systematic enumeration. BOOG WATSON in his "Challenger"-Gastropods, has mentioned it (p. 402) also as a synonym. E. A. SMITH (l. c.) and BRAZIER have separated it, I think on sufficient grounds. Indeed, if one compares the shells, they are very different; with the same number of whorls, the shell is still much smaller, than the var. *aculeata* of the preceding species, and has the tubercles on the whorls still more numerous, the varices are impressedly striate, not ribbed, with broad interstices, as in *G. perca*.

## Bursa Bolten.

1. *Bursa crumena* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 644.
KIENER. Coq. Viv. Vol. VI, Ranella, p. 4, Pl. 3, fig. 1 (*elegans*).
REEVE. Conch. Ic. Vol. II, Ranella, fig. 17.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Ranella, p. 149, Pl. 39*a*, fig. 3.
TRYON. Man. of Conch. Vol. III, p. 37, Pl. 18, fig. 3.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.

The only specimen is a dead shell, which seems to have been inhabited by one of the Paguridae.

2. *Bursa margaritula* Deshayes.

DESHAYES. An. s. vert. Ed. II, Vol. IX, p. 550.
KIENER. Coq. Viv. Vol. VI, Ranella, p. 14, Pl. 8, fig. 2.
REEVE. Conch. Ic. Vol. II, Ranella, fig. 15.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Ranella, p. 137, Pl. 38, fig. 4, 5?
TRYON. Man. of Conch. Vol. III, p. 37, Pl. 18, fig. 4.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 3 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud, 3 Spec.

The specimen from Stat. 50 is white, with a few brown spots and a yellow margin of the aperture, but agrees in other respects. I must doubt if the figures of the Conchylien-Cabinet really belong to this species, notwithstanding the statement that they had been erroneously united to *R. albivaricosa*. I think the canal resembles much more in shape that of *Bursa rana (albivaricosa)* than that of *B. margaritula*, which is much shorter and in the back view is directed to the left.

3. *Bursa rana* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 748, N° 452.
REEVE. Conch. Ic. Vol. II, Ranella, fig. 2 (*albivaricosa*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Ranella, p. 133, Pl. 38, fig. 8, 9 (*albivaricosa*).
TRYON. Man. of Conch. Vol. III, p. 38, Pl. 18, fig. 5, 6 (*albivaricosa*).

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 5 Spec.
Stat. 4. Djankar (Java). 9 M. Coarse sand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 60. Haingsisi, Samau-island. Reef. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud. 1 Spec.
Stat. 162. Between Loslos and Broken islands. West coast of Salawatti. 18 M. Coarse and fine sand with clay and shells. 1 Spec.
Stat. 231. Amboina. 40 M. Coralsand. 2 Spec.
Stat. 251. 5°28.4 S., 132°0'.2 E. Arafura Sea. 204 M. Hard coralsand. 1 Spec.
Stat. 318. 6°36'.5 S., 114°55'.5 E. Java Sea. 88 M. Fine yellowish-grey mud. 1 Spec.

The specimen from Stat. 251, which is a dead, broken shell, differs from the other specimens in sculpture, the beads being larger, the spines on the body and varices smaller, it is also slightly different in shape; as however Mr. E. A. SMITH declared it to be merely a variety of *B. rana* I have left this single specimen under that species.

4. *Bursa subgranosa* (Beck) Sowerby.

SOWERBY. Conch. Ill. fig. 18.
RUMPH. Amb. Rariteitkamer, p. 82, Pl. 24, fig. F.
KIENER. Coq. Viv. Vol. VI, Ranella, p. 5, Pl. 4, fig. 1 (*Beckii*).
REEVE. Conch. Ic. Vol. II, Ranella, fig. 1.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Ranella, p. 135, Pl. 93, fig. 2.
TRYON. Man. of Conch. Vol. III, p. 38, Pl. 19, fig. 1.

Stat. 12. 7°15' S., 115°15'.6 E. Madura Sea. 289 M. Mud, and broken shells. 1 Spec.
Stat. 306. 8°27' S., 122°54'.5 E. Savu Sea. 247 M. Sandy mud. 2 Spec.

The specimens are dead shells, so it is uncertain if they have lived at the considerable depth mentioned on the labels.

5. *Bursa elegans* (Beck) Sowerby.

SOWERBY. Conch. Ill., fig. 17.
REEVE. Conch. Ic. Vol. II, Ranella, fig. 22.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Ranella, p. 156, Pl. 39*a*, fig. 10.
TRYON. Man. of Conch. Vol. III, Ranella, p. 38, Pl. 18, fig. 7 (*subgranosa* var.).

Stat. 207. Buton-strait. 148 M. Grey mud. 2 Spec.

TRYON (l. c.) considers this species to be a variety of *B. subgranosa*; I find too important differences in shape, sculpture, especially of the varices and in the canal, to share his opinion.

6. *Bursa (Bufonia) lampas* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 748, N$^0$ 454.
RUMPH. Amb. Rariteitkamer, p. 94, Pl. 28, fig. C. D.
KIENER. Coq. Viv. Vol. VI, Triton, p. 38, Pl. 5, fig. 1.
REEVE. Conch. Ic. Vol. II, Triton, fig. 30.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 175, Pl. 47, fig. 3, 4; Pl. 40, fig. 7, 8.
TRYON. Man. of Conch. Vol. III, p. 38, Pl. 19, fig. 12.

Stat. 89. Pulu Kaniungan Ketjil. Reef. 1 Spec.
Stat. 240. Banda. 9—36 M. Lithothamnion-bank. 1 Spec.

The specimen from Stat. 89 is only a fragment.

7. *Bursa (Lampadopsis) rhodostoma* (Beck) Sowerby.

SOWERBY. Conch. Ill. Ranella, fig. 10.
REEVE. Conch. Ic. Vol. II, Ranella. fig. 32.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Ranella, p. 155, Pl. 39*a*, fig. 11.
TRYON. Man. of Conch. Vol. III, p. 40, Pl. 21, fig. 25.

Stat. 66. Bank between islands of Bahuluwang and Tambolungan, south of Saleyer. 8 M. Dead coral, Halimeda, Lithothamnion. 1 Spec.
Stat. 172. Between Gisser and Ceram-Laut. 18 M. Coral- and Lithothamnion-bottom. 1 Spec.

The specimen from Stat. 172 is young, and has the aperture not developed, that from Stat. 66 though small, has well-developed apertural margins, which are dark purple, with lighter patches, and resembles in colour of the aperture, REEVE's *Ranella venustula* (l. c. fig. 37) but does not agree with the description of that species. It resembles also the figures of *R. Paulucciana* Tapp. Can. (Ann. Soc. Mal. Belg. Vol. XV, fasc. I, Pl. 2, fig. 16, 17), but it is not so dark and has a higher spire. The identification of small specimens in this group remains somewhat uncertain. TRYON considers this species to be a variety of *B. cruentata* Sow.

8. *Bursa (Ranella) tuberosissima* Reeve.

REEVE. Conch. Ic. Vol. II, Ranella, fig. 39.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Ranella, p. 157, Pl. 47, fig. 1, 2.
TRYON. Man. of Conch. Vol. III, p. 39, Pl. 20, fig. 14.

Stat. 89. Pulu Kaniungan Ketjil. Reef. 1 Spec.
Stat. 144. Salomakiëe-island. 45 M. Coral-bottom and Lithothamnion. 1 Spec.
Stat. 282. Between Nusa Besi and N. E. point of Timor. 27—54 M. Sand, coral and Lithothamnion. 1 Spec.

The specimen from Stat. 89 is broken, those from the other localities are very young and consequently a little uncertain. TRYON calls this species a synonym of *B. bufonia*.

9. *Bursa (Colubrellina) granifera* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. 9, p. 548.
KIENER. Coq. Viv. Vol. VI, Ranella, p. 16, Pl. 11, fig. 1.
REEVE. Conch. Ic. Vol. II, Ranella, fig. 30.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Ranella, p. 143, Pl. 39*a*, fig. 1.
TRYON. Man. of Conch. Vol. III, p. 41, Pl. 22, fig. 35, 36.

Stat. 89. Pulu Kaniungan Ketjil. Reef. 1 Spec.
Stat. 174. Waru-bay, North coast of Ceram. 18 M. Mud. 1 Spec.
Stat. 213. South-island. Reef. 1 Spec.
Stat. 231. Amboina. Reef. 1 Spec.
Stat. 279. Rumah-Kuda-bay, Roma-island. Reef. 1 Spec.

10. *Bursa (Colubrellina) affinis* Broderip.

BRODERIP. Proc. Zool. Soc. Lond. 1832, p. 179.
REEVE. Conch. Ic. Vol. II, Ranella, fig. 19.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Ranella, p. 142, Pl. 38*a*, fig. 5.
TRYON. Man. of Conch. Vol. III, p. 42, Pl. 22, fig. 38.

Stat. 58. Seba, Savu. Reef. 1 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and Sand. 3 Spec.
Stat. 213. South-island near Saleyer. Reef. 1 Spec.
Stat. 225. South Lucipara-island. Reef. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand and coral. 1 Spec.
Stat. 279. Rumah-Kuda-bay, Roma-island. Reef. 2 Spec.

This species which is rather variable, cannot always be easily separated from the preceding one.

11. *Bursa (Craspedotriton) convoluta* Broderip.

BRODERIP. Proc. Zool. Soc. Lond. 1833, p. 7.
REEVE. Conch. Ic. Vol. II, Triton, fig. 92.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Triton, p. 217, Pl. 61, fig. 3.
TRYON. Man. of Conch. Vol. III, p. 25, Pl. 13, fig. 118.

Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.

The only specimen of this peculiar species is unfortunately a dead one. DALL (Smithsonian miscell. Coll. Vol. 47, p. 119) locates this species in the genus *Bursa*, though the anatomy is unknown.

## Fam. Oocorythidae Fischer.

### Oocorys Fischer.

1. *Oocorys Weberi* n. sp. Pl. X, fig. 2.

Stat. 175. 2° 37'.7 S., 130° 33'.4 E. Ceram Sea. 1914 M. Fine grey and green mud. 1 Spec.

Shell globosely-ovate, moderately ventricose, rather strong, white under a yellowish epidermis; whorls about $5^1/_2$, (nucleus ones worn) convex, with a distinct suture and with strong spiral lirae, of which there are six on the penultimate whorl; 22 on the last one, including the canal; these lirae are separated by interstices, with a few exceptions about as broad as the lirae themselves, the uppermost liration borders the suture and is separated from the second one, by a broader concave interstice, giving it a channellike appearance; the interstices and in some degree the lirae, are crossed by radiating striae, which are coarser on the upper whorls. Aperture oblong-ovate, angular above, ending in a broad canal directed towards the left, columellar margin with a rather strong layer of enamel, spread over the bodywhorl; it is grooved by the lirae and covered with microscopic granules; columella rounded, curved, strongly bent to the left along the canal; right margin nearly regularly curved, with an angle, corresponding to the second lira, and with an external rib, expanded and grooved interiorly; these grooves extend in the interior of the shell, which is porcellaneous.

Operculum as in the typical species, reddish-brown, with a shallow groove along the right margin.

Alt. 38, lat. 27; apert. alt. incl. perist. 28, lat. $14^1/_2$.

This species is less globose than *O. sulcata* Fischer (Journ. Conch. 1883, p. 392) with fewer lirae (6 in the penultimate whorl, instead of 8 to 12) the radiating striae seem to be much weaker than in *sulcata*, at least than in the "Challenger" specimen, where the interstices are much broader (Boog Watson: "Challenger" Gastropoda, Pl. 17, fig. 11). In *Benthodolium (= Oocorys) abyssorum* Verrill (Transact. Connecticut Acad. Vol. VI, 1882—85, p. 177, Pl. 31, fig. 12) the spire is much higher if compared with the aperture, the lirae are much more numerous, and the interspaces much broader, the canal much straighter. It appears rather doubtful to me, that these specimens should belong to the same species, unless it be excessively variable. I think the differences enumerated above, will be sufficient to separate shells of such a remote provenience.

2. *Oocorys sulcata* Fischer.

Fischer. Journal de Conchyl. 1883, p. 392.
—— Manuel de Conchyl. p. 679, fig. 536.
Tryon. Man. of Conch. Vol. VII, p. 267, Pl. 6, fig. 42.

Stat. 314. 7° 36' S., 117° 30'.8 E. Flores Sea. 694 M. Fine, sandy mud. 1 Spec.

The only specimen is a dead, apparently not adult shell, the peristome not being developed. I can find no characters to separate it from the atlantic species, described by Fischer, it agrees in every aspect, as far as may be judged from the description and Fischer's figure, which is

only a woodcut; the small differences may be individual; the number of spiral lirae described by the author, as being from 8—12, are at least 12, perhaps 13; the most striking difference, the simple peristome, is probably valueless, as it depends without doubt on age. E. A. Smith (Ann. and Mag. of Nat. Hist. Ser. 7, Vol. 17, 1906, p. 170) mentions a specimen under the name of var. *indica*, with the locality "off S. of Ceylon, 1912 fath." which cannot be separated specifically from the species under consideration.

3. *Oocorys elongata* n. sp. Pl. X, fig. 3.

Stat. 221. 6° 24′ S., 124° 39′ E. Banda Sea. 2798 M. Solid, bluish-grey mud with Foraminifera. 2 Spec.

Shell elongately-ovate, rather strong, white under a yellowish epidermis; spire rather high; whorls 5, (nucleus wanting) convex, with an impressed suture and strong spiral lirae, 10 to 12 on the penultimate whorl, from 25 to 32 on the last one, they are separated by interstices which are in most cases broader than the lirae; the whole shell (lirae and interstices) is crossed by radiating striae. Aperture oblong-ovate, angular above, ending below in a very short, wide canal, slightly directed towards the left, columellar margin covered by a layer of enamel spread over the bodywhorl, it is grooved by the lirae and microscopically granular, columella rounded, slightly curved, strongly bent to the left, along the canal; right margin regularly curved, slightly expanded but not ribbed exteriorly, thickened and grooved interiorly; aperture porcellaneous. A small umbilical slit, may disappear with age.

Operculum typical, reddish-yellow, with a shallow groove at the right margin.

Alt. $33^1/_2$, lat. $22^1/_2$; apert. alt. 21 (incl. perist.) lat. $11^1/_2$.

This species differs from *O. sulcata*, in being much more elongate, with a higher spire, the aperture being about $1^1/_2 \times$ as long as the spire, being nearly $2 \times$ as long in *O. sulcata*, even the more elongate figure of the "Challenger" specimen, is still shorter, and has also a shorter spire in proportion. *Benthodolium abyssorum* Verrill, which agrees in this respect, is a much more ventricose shell, with much broader aperture. The two specimens vary in sculpture as stated above, that of the smallest specimen being considerably finer; the upper whorls of this specimen are strongly eroded and the last whorl seems to have been broken, at least at some distance from the thin margin an irregular varix makes its appearance, and the umbilicus is more open. I think however these differences between the two specimens, will prove to be individual and in part accidental.

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## Fam. Cassididae Herm.

### **Cassis** Klein.

1. *Cassis (Semicassis) pila* Reeve.

Reeve. Conch. Ic. Vol. V, Cassis, fig. 21.
Rumph. Amb. Rariteitkamer, p. 84, Pl. 25, fig. C.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Cassis, p. 39, Pl. 51, fig. 9, 10.
Tryon. Man. of Conch. Vol. VII, p. 275, Pl. 5, fig. 75 (*saburon* var. *pila*).

Stat. 1. Madura-strait, 1400 M. from reef "Zwaantjes-droogte". 37 M. Grey mud, with small, broken shells. 1 Spec.
Stat. 2. Madura-strait. 56 M. Grey mud with some Radiolariae. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.

The specimen from Stat. 1 is young but characteristic, those from Stat. 2 and 116 are less inflated than the type and have only obsolete brown, square spots (perhaps bleached as they are only empty shells).

2. *Cassis (Semicassis) bisulcata* Schubert & Wagner.

Schubert & Wagner. Fortsetz. Martini-Chemn. Conch. Cab. Ed. I, Vol. 12, p. 68, Pl. 223, fig. 3081/2.
Reeve. Conch. Ic. Vol. V, Cassis, fig. 6.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Cassis, p. 19, Pl. 43, fig. 6, 7.
Tryon Man. of Conch. Vol. VII, p. 276, Pl. 5, fig. 78 (*saburon* var. *bisulcata*).

Stat. 231. Amboina. 40 M. Coralsand. 6 Spec.
Stat. 277. Kulewatti-(Sollot)-bay, Dammer-island. 18 M. Sand, white and black, mixed. 1 Spec.

I cannot agree with Tryon's opinion, that this and the preceding species are only varieties of *C. saburon* Adans., the species now under consideration, may be easily distinguished by its last whorl, which is smooth, with exception of the grooves at the upper and basal parts, instead of being spirally striate as in *C. pila* and *saburon*, which may on their turn be distinguished from each other, by the lower part of the columella, which is closely plicated in *C. pila*, as Küster (l. c.) has observed, moreover by closer striae on the bodywhorl of that species.

3. *Cassis (Bezoardica) glauca* Linné.

Linné. Syst. Nat. Ed. X, p. 737, N$^{0}$ 391.
Rumph. Amb. Rariteitkamer, p. 83, Pl. 25, fig. A.
Kiener. Coq. Viv. Vol. VII, Cassis, p. 27, Pl. 5, fig. 9.
Reeve. Conch. Ic. Vol. V, Cassis, fig. 33.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Cassis, p. 7, Pl. 37, fig. 1, 2.
Tryon. Man. of Conch. Vol. VII, p. 276, Pl. 6, fig. 79, 80.

Stat. 231. Amboina. Reef. 1 Spec.

4. *Cassis (Casmaria) vibex* Linné.

Linné. Syst. Nat. Ed. X, p. 737, N$^{0}$ 392.
Rumph. Amb. Rariteitkamer, p. 84, Pl. 25, fig. E, 6, 9.
Kiener. Coq. Viv. Vol. VII, Cassis, p. 22, Pl. 11, fig. 20, 20*a*.
Reeve. Conch. Ic. Vol. V, Cassis, fig. 15*b*, *c*.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Cassis, p. 12, Pl. 38, fig. 5, 7.
Tryon. Man. of Conch. Vol. VII, p. 277, Pl. 7, fig. 89.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 58. Seba, Savu. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.
*Java (N. A. M.) 1 Spec.

The specimens are small, smooth, those from Stat. 58 and 234, with the often occurring brown lines. (KIENER, l. c. fig. 20*a*).

var. *erinacea* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 736, N° 390.
RUMPH. Amb. Rariteitkamer, p. 84, Pl. 25, fig. D, 7.
KIENER. Coq. Viv. Vol. VII, Cassis, p. 23, Pl. 11, fig. 21.
REEVE. Conch. Ic. Vol. V, Cassis, fig. 15*a*, 15*d*.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Cassis, p. 13, Pl. 38, fig. 6; Pl. 49, fig. 5, 6.
TRYON. Man. of Conch. Vol. VII, p. 277, Pl. 7, fig. 9.

Stat. 64. Kambaragi-bay, Tanah-Djampeah. 32 M. Coral, coralsand. 1 Spec.
Stat. 193. Sanana, Sula Besi-island. Reef. 1 Spec.

5. *Cassis (Casmaria) torquata* Reeve.

REEVE. Conch. Ic. Vol. V, Cassis, fig. 1*a—c*.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Cassis, p. 15, Pl. 39, fig. 3, 4, 5, 6.
TRYON. Man. of Conch. Vol. VII, p. 278, Pl. 7, fig. 92, 93.

Stat. 91. Muaras-reef, inner side, East coast of Borneo. 54 M. Hard coralsand. 1 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom, sand and coral. 1 Spec.

The specimen from Stat. 94 belongs to the smooth type, that from Stat. 91 to the nodulose variety; this latter specimen is very small.

## **Morio** Montfort.

1. *Morio granulosa* n. sp. Pl. X, fig. 4.

Stat. 316. 7° 19'.4 S., 116° 49'.5 E. 538 M. Fine, dark brown, sandy mud. 1 Spec.

Shell globosely-ovate, ventricose, with a raised, conical spire; white, with a yellowish epidermis; whorls about $6^1/_2$, the upper part of the smooth nucleus wanting, the whorls are convex, separated by a deep suture, spirally striate and lirate, the upper ones moreover with obtuse ribs; on the lower whorls the infrasutural liration is strong, divided by a groove, more below the lirae are still stronger and granulose, and number from one on the fourth whorl, to two and three on the penultimate one; these 3 principal lirae are persisting on the last whorl, where they bear about 30 granules, and are succeeded towards the front part of that whorl, by eight granulose lirae, which become however weaker in approaching that front part and are finally succeeded by about 12 nearly smooth lirae; the 3 principal lirae are divided by 2 grooves, and a few of the other ones by a single groove, moreover many of the interstices are provided with much smaller lirae, from one to three in number in each interstice; the whole shell is crossed by conspicuous growth-lines. Aperture oblong-ovate, angular above, terminating anteriorly in a short, slightly recurved canal; columellar margin callous, with rugose plicae, corresponding to the lirae, columella rounded, nearly straight, obliquely truncated, its left margin slightly expanded, leaving only a scarcely visible umbilical slit; outer margin thickened, riblike

externally, flattened and obscurely denticulate internally, slightly angular at some distance from its upper part, where it joins the body-whorl.

Alt. 54, lat. 38; apert. alt. (with canal) 37, lat. 14 Mill.

This species has a superficial resemblance with the Mediterranean *M. echinophora* L. but differs in every particular, the canal is much less recurved, the columellar plate is fixed to the body-whorl, not loosened like in *echinophora*, the labial rib is much stronger, the sculpture more delicate, the shape more pyriform, etc.

2. *Morio lineata* n. sp. Pl. X, fig. 5.

Stat. 173. 3° 27′ S., 131° 0′ 5 E. 567 M. Ceram Sea. Fine, yellow grey mud. 2 Spec.

Shell globosely-ovate, ventricose, with a rather high spire, thin; under a yellowish epidermis it is white with light brown lirae. Whorls about 8, of which $4^1/_2$ form the smooth, yellow nucleus; the other whorls very convex, with a conspicuous suture and rather strong spiral lirae, about 16 principal ones on the last whorl and small intermediate ones, which are of a still lighter colour, moreover 5 lirae on the canal; after a few thinner lirae below the suture, 9 of the principal lirae are more or less granulose on the dorsal part of the whorl; the shell is crossed by numerous, rather conspicuous, lamellose or riblike striae, which run over the lirae, and very fine growth-striae. Aperture oblong-ovate, angular above, ending below in a short, broad, only slightly recurved canal; columellar margin with a very thin layer of enamel on the bodywhorl, slightly stronger below, on the nearly straight columella, which is slightly oblique near the canal, leaving a very small umbilical slit, nearly closed by the layer of enamel; outer margin regularly curved, exteriorly with a conspicuous rib, which is flattened and rather strongly denticulate interiorly. Interior of aperture with grooves, corresponding to the external lirae, the grooves light brown.

Alt. $41^1/_2$, lat. $29^1/_2$; apert. alt. (incl. canal) 28, lat. $12^1/_2$ Mill.

This species is allied to the preceding one, but the shell is smaller, thinner, more ventricose, the granules on the brown lirae are weaker and not divided by spiral striae, the canal is shorter, less recurved, the ventral side and columella nearly without enamel.

3. *Morio Alcocki* Smith. Pl. X, fig. 6.

Smith. Ann. Mag. Nat. Hist. Ser. 7, Vol. 18, 1906, p. 170.

Stat. 314. 7° 36′ S., 117° 30′.8 E. Flores Sea. 694 M. Fine, sandy mud. 1 Spec.

The specimen has a length of 104 Mill., its diam. maj. is 68 Mill. and is consequently still a little larger than Smith's type, which is 99 × 61 Mill. The species has been or will be figured in Alcock's Illustrations Zool. "Investigator". As this work, of which I owe the parts appeared untill December 1906, to the liberality of its author, is not generally known, I have thought it useful to give figures of the magnificent "Siboga" specimen.

## Fam. Doliidae Adams.

### Dolium Lamarck.

1. *Dolium olearium* Bruguière.

Bruguière. Dict. des Vers. N$^0$ 1.
Rumph. Amb. Rariteitkamer, p. 91, Pl. 27, fig. D.
Kiener. Coq. Viv. Vol. VII, Dolium, p. 6, Pl. 1, fig. 1.
Reeve. Conch. Ic. Vol. V, Dolium, fig. 14.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Dolium, p. 68, Pl. 61, fig. 1.
Tryon. Man. of Conch. Vol. VII, p. 262, Pl. 2, fig. 8.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 142. Laiwui, North coast of Obi major. Reef. 1 Spec.
Stat. 279. Roma. Reef. 1 Spec.
Stat. 299. Buka or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.
Stat. ? 1 Spec.

The specimens belong to the type (Tryon's fig. 8), and not to the varieties or species he has united under *D. olearium*.

2. *Dolium costatum* Menke.

Menke. Synops. Meth. App. 1828.
Kiener. Coq. Viv. Vol. VII, Dolium, p. 11, Pl. 4, fig. 6 (*fasciatum* var.).
Reeve. Conch. Ic. Vol. V, Dolium, fig. 8.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Dolium, p. 61, Pl. 56, fig. 3; Pl. 57, fig. 3.
Tryon. Man. of Conch. Vol. VII, p. 263, Pl. 4, fig. 19, 20.

Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand coral and mud. 1 Spec.

Both specimens are very young.

3. *Dolium fasciatum* Bruguière.

Bruguière. Dict. des Vers. N$^0$ 5.
Kiener. Coq. Viv. Vol. VII, Dolium, p. 11, Pl. 3, fig. 5.
Reeve. Conch. Ic. Vol. V, Dolium, fig. 11.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Dolium, p. 62, Pl. 56, fig. 4.
Tryon. Man. of Conch. Vol. VII, p. 263, Pl. 3, fig. 16.

Stat. 12. 7° 15′ S., 115° 15′.6 E. Bali Sea. 289 M. Mud and broken shells. 2 Spec.

I think it is not probable that this species has lived at a depth of 289 M., both specimens are dead shells, grey without bands, in other respects they exactly agree with specimens in my collection.

4. *Dolium (Malea) pomum* Linné.

Linné. Syst. Nat. Ed. X, p. 735, N$^0$ 379.
Rumph. Amb. Rariteitkamer, p. 90, Pl. 27, fig. B.
Kiener. Coq. Viv. Vol. VII, Dolium, p. 12, Pl. 5, fig. 8.

REEVE. Conch. Ic. Vol. III, Dolium, fig. 6.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Dolium, p. 63, Pl. 56, fig. 5, 6.
TRYON. Man. of Conch. Vol. VII, p. 265, Pl. 5, fig. 26.

Stat. 133. Lirung, Salibabu-island. Reef. 1 Spec.
Stat. 142. Laiwui, North coast of Obi-major. 23 M. Mud. 1 Spec.

The specimens are of small size, the largest (from Stat. 142) measuring only 50 Mill., though the aperture is well developed.

### **Pirula** Lamarck.

1. *Pirula gracilis* Sowerby.

SOWERBY. Cat. Coll. Tankerville. App. p. 17.
KIENER. Coq. Viv. Vol. VI, Pyrula, p. 25, Pl. 11 (*Dussumieri*).
REEVE. Conch. Ic. Vol. IV, Ficula, fig. 2 (*Dussumieri*).
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Ficula, p. 10, Pl. 1, fig. 1 (*Dussumieri*).
TRYON. Man. of Conch. Vol. VII, p. 266, Pl. 5, fig. 30 (*Dussumieri*).
SMITH. Journ. of Mal. Vol. III, 1894. Recent spec. of Pirula, p. 4.

Stat. 2. Madura-strait. 67 M. Grey mud with some radiolariae. 3 Spec.

The localities mentioned in the paper of SMITH, are China and Bay of Bengal. Madura-strait may be considered as a connecting link, between these two rather remote stations.

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## Fam. CYPRAEIDAE Fleming.

### **Cypraea** Linné.

1. *Cypraea isabella* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 722, N$^0$ 304.
RUMPH. Amb. Rariteitkamer, p. 118, Pl. 39, fig. G.
KIENER. Coq. Viv. Vol. I, p. 87, Pl. 48, fig. 3—3*a*.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 51.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 17, Pl. 4, fig. 7; Pl. 12, fig. 10, 11.
TRYON. Man. of Conch. Vol. VII, p. 165, Pl. 1, fig. 6, 7.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 115. East side of Pajunga-island, Kwandang-bay. Reef. 1 Spec.
Stat. 225. Lucipara-island. Reef. 2 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

2. *Cypraea carneola* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 719, N$^0$ 290.
RUMPH. Amb. Rariteitkamer, p. 115, Pl. 38, Fig. K.
KIENER. Coq. Viv. Vol. I, p. 83, Pl. 37, fig. 3.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 19.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 14, Pl. 3, fig. 8, 9; Pl. 5, fig. 1, 2.
TRYON. Man. of Conch. Vol. VII, p. 166, Pl. 3, fig. 26—30.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. near West coast of New Guinea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 225. Lucipara-island. Reef. 1 Spec.
Stat. 279. Roma. Reef. 1 Spec.

3. *Cypraea talpa* Linné.

Linné. Syst. Nat. Ed. X, p. 720, N° 292.
Rumph. Amb. Rariteitkamer, p. 115, Pl. 38, fig. I.
Kiener. Coq. Viv. Vol. I, p. 79, Pl. 12, fig. 2.
Reeve. Conch. Ic. Vol. III, Cypraea, fig. 5.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 18, Pl. 4, fig. 5, 6.
Tryon. Man. of Conch. Vol. VII, p. 167, Pl. 3, fig. 31—33.

Stat. 16. Bay of Kankamaraän, South coast of Kangeang. Reef. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Reef. 1 Spec.
Stat. 279. Ruma-Kuda-bay, Roma-island. Reef. 1 Spec.

4. *Cypraea fimbriata* Gmelin.

Gmelin. Syst. Nat. Ed. XIII, p. 3423.
Reeve. Conch. Ic. Vol. III, Cypraea, fig. 92.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 31, Pl. 9, fig. 2, 3, Pl. 13, fig. 5, 8.
Tryon. Man. of Conch. Vol. VII, p. 168, Pl. 5, fig. 76—78.

Stat. 164. 1°42'.5 S., 130°47.5 E. near West coast of New Guinea. 32 M. Sand, small stones and shells. 2 Spec.
Stat. 213. Saleyer. Reef. 1 Spec.
Stat. 234. Nusa-Laut-island. Reef. 1 Spec.
Stat. 282. Between Nusa Besi and the N.E. point of Timor. 27—54 M. Sand, coral and Lithothamnion. 1 Spec.
Stat. 299. Buka-bay, South coast of Rotti-island. 34 M. Sand, coral and Lithothamnion. 2 Spec.

5. *Cypraea contaminata* Gray.

Gray. Descript. Cat. Cypraea p. 11.
Kiener. Coq. Viv. Vol. I, p. 101, Pl. 57, fig. 5.
Reeve. Conch. Ic. Vol. III, Cypraea, fig. 121.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 34, Pl. 10, fig. 5, 8.
Tryon. Man. of Conch. Vol. VII, p. 168, Pl. 4, fig. 48, 49.

Stat. 66. Bank between Bahuluwang and Tambolungan, south of Saleyer. 8—10 M. Dead coral, Halimeda, Lithothamnion. 1 Spec.
Stat. 322. South of Tandjong Lajar, South coast of Bawean-island. 32 M. Coral. 1 Spec.

Both specimens are slightly worn, the small brown dots on the dorsal side are consequently wanting, but the larger blotch is still present.

6. *Cypraea microdon* Gray.

Gray. Zool. Journ. Vol. IV, p. 71.
Kiener. Coq. Viv. Vol. I, p. 102, Pl. 56, fig. 5; p. 92, Pl. 56, fig. 4, 4*a* (*chrysalis*).
Reeve. Conch. Ic. Vol. III, Cypraea, fig. 139.

WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 101, Pl. 31, fig. 5, 8.
TRYON. Man. of Conch. Vol. VII, p. 169, Pl. 5, fig. 74, 75; p. 172, Pl. 4, fig. 64, 65 (*chrysalis*).
SMITH. Proc. Mal. Soc. Lond. Vol. V, p. 167.

Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. 22 M. Mud, coral and Lithothamnion. 1 Spec.

The specimens are bleached, but they agree in shape, in the narrow aperture and number of teeth, with a fresh specimen from Mauritius; the rosy tips are still recognizable.

7. *Cypraea ursellus* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3411.
KIENER. Coq. Viv. Vol. I, p. 99, Pl. 33, fig. 4—4*a*.
TRYON. Man. of Conch. Vol. VII, p. 169, Pl. 4, fig. 54, 55.
DAUTZENBERG. Journ. Conch. 1902, p. 307.

Stat. 213. South-island, near Saleyer. Reef. 1 Spec.

Though WEINKAUFF (Martini-Chemn. Conch. Cab. Ed. II, Vol. V, p. 42, 43) considers this shell, named by him *urcellus*, to be only a form of *C. felina* Gmel., and suggests that the shell described by GMELIN, should be another species (*Oweni* Gray), I follow the opinion of DAUTZENBERG (l. c.).

8. *Cypraea quadrimaculata* Gray.

GRAY. Zool. Journ. Vol. I, p. 376.
KIENER. Coq. Viv. Vol. I, p. 90, Pl. 3, fig. 3.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 107.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 30, Pl. 9, fig. 1, 4.
TRYON. Man. of Conch. Vol. VII, p. 167, Pl. 4, fig. 40, 41.

Stat. 213. Surroundings of Saleyer. Up to 36 M. Mud and mud with sand. 1 Spec.

9. *Cypraea caurica* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 723, N$^0$ 313.
RUMPH. Amb. Rariteitkamer, p. 115, Pl. 38, fig. P.
KIENER. Coq. Viv. Vol. I, p. 54, Pl. 10, fig. 2.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 46.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 12, 34, Pl. 3, fig. 4, 5; Pl. 10, fig. 2, 3.
TRYON. Man. of Conch. Vol. VII, p. 171, Pl. 5, fig. 88—90.

Stat. 89. Pulu Kaniungan Ketjil. Reef. 1 Spec.
Stat. 225. South point of Lucipara-island. Reef. 1 Spec.

E. VON MARTENS (Rumphius Gedenkboek, Mollusca, p. 15) quotes fig. O of RUMPH for *C. caurica* and fig. P for *variolaria (cruenta)*, but a look at the plate makes it clear, that fig. P belongs to *caurica*. RUMPH says that his "Variolae" are of two kinds, he describes first the largest one with black spots at the sides (*caurica*) fig. P; than the smaller one with purple spots (*variolaria* Lam.) but in the explication of the plate, at the end of the chapter, the words "13$^{th}$ species, O, red measles, of which a second species is represented at fig. P", is in accordance with my views.

10. *Cypraea (Aricia) caput serpentis* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 720, N⁰ 298.
RUMPH. Amb. Rariteitkamer, p. 114, Pl. 38, fig. F.
KIENER. Coq. Viv. Vol. I, p. 112, Pl. 69, fig. 1.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 44.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 21, Pl. 5, fig. 20, 21.
TRYON. Man. of Conch. Vol. VII, p. 173, Pl. 6, fig. 98—100.

Stat. 172. Island of Gisser. Reef. 1 Spec.
Stat. 299. Buka-bay, South coast of Rotti-island. 34 M. Sand, coral and Lithothamnion. 2 Spec.
*Bawean-island? 2 Spec.

11. *Cypraea (Aricia) arabica* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 718, N⁰ 286.
RUMPH. Amb. Rariteitkamer, p. 115, Pl. 38, fig. M.
KIENER. Coq. Viv. Vol. I, p. 105, Pl. 17, fig. 1.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 2.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 51, Pl. 16, fig. 3—6.
TRYON. Man. of Conch. Vol. VII, p. 174, Pl. 8, fig. 18, 19.

Stat. 16. Bay of Kankamaraän, South coast of Kangeang. Shore. 1 Spec.
Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 2 Spec.
Stat. 34. Labuan Pandan, Lombok. Coralreef. 2 Spec.
Stat. 37. Sailus Ketjil, Paternoster-islands. Reef. 1 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 58. Seba, Savu. Reef. 2 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom, sand and coral. 1 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 1 Spec.
Stat. 144. North of Salomakiëe-island. Reef. 1 Spec.
Stat. 174. Waru-bay, North coast of Ceram. Reef. 1 Spec.
Stat. 225. South of Lucipara-island. Reef. 2 Spec.
Stat. 231. Amboina. Reef. 3 Spec.
Stat. 261. Elat, West coast of Great-Kei-island. Reef. 1 Spec.
Stat. 272. Dobo, Aru-islands. Reef. 1 Spec.
*Amboina. 1 Spec.
*Bawean-island? 2 Spec.
*Humboldt-bay, N. Guinea. (N. Guinea-Expedition 1903). 5 Spec.

Very variable in size and shape and, though less, in markings. The smallest adult specimen, from Stat. 19, has a length of 36 Mill., the largest, from Stat. 225, of 63 Mill. I have seen however still smaller and larger specimens.

12. *Cypraea (Aricia) moneta* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 723, N⁰ 312.
RUMPH. Amb. Rariteitkamer, p. 117, Pl. 39, fig. C.
KIENER. Coq. Viv. Vol. I, p. 122, Pl. 34, fig. 1.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 74.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 67, Pl. 20, fig. 1, 4.
TRYON. Man. of Conch. Vol. VII, p. 177, Pl. 10, fig. 46; Pl. 11, fig. 51, 52; Pl. 23, fig. 60, 61, 63.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 60. Haingsisi, Samau-island. Reef. 1 Spec.
Stat. 91. Moearas-reef, inner side, East coast of Borneo. 1 Spec.
Stat. 169. Atjatuning, West coast of N. Guinea. Reef. 1 Spec.

The specimen from Stat. 91 is typical in shape, that from Stat. 33 is much worn, those from Stat. 60 and 169 are small, the tubercles on the back are obsolete, but at the base they are present.

var. *icterina* Lamarck.

LAMARCK. An. s. vert. Ed. Desh. Vol. X, p. 510.
KIENER. l. c. p. 123, Pl. 34, fig. 3.
WEINKAUFF. l. c. p. 68, Pl. 20, fig. 2.
TRYON. l. c. p. 178, Pl. 23, fig. 62.

Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 5 Spec.
Stat. 71. Pulu Barang, near Makassar. Shore. 1 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom, sand and coral. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.

The specimens from Stat. 7 are large and typical, the longest one has a length of 36 Mill. that from Stat. 193 is much smaller, and those from the other Stations are still smaller and less characteristic, they resemble the vars. *atava* and *plumaria*, both of ROCHEBRUNE, as figured by TRYON (l. c. Pl. 23, fig. 64, 65 and 69).

13. *Cypraea annulus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 723, N° 314.
RUMPH. Amb. Rariteitkamer, p. 117, Pl. 39, fig. 5.
KIENER. Coq. Viv. Vol. I, p. 124, Pl. 34, fig. 2.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 71.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Crypraea, p. 69, Pl. 20, fig. 9, 12.
TRYON. Man. of Conch. Vol. VII, p. 178, Pl. 11, fig. 57, 59, 61; Pl. 23, fig. 70—72.

Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 11 Spec.
Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 2 Spec.
Stat. 34. Labuan Pandan, Lombok. Coralreef. 6 Spec.
Stat. 37. Sailus Ketjil, Paternoster-islands. 27 M. Coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. Shore. 5 Spec.
Stat. 81. Pulu Sebangkatan, Borneo-bank. Reef. 1 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Reef. 2 Spec.
Stat. 169. Atjatuning, West coast of New Guinea. Reef. 2 Spec.
Stat. 174. Waru-bay, North coast of Ceram. Reef. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 10 Spec.
Stat. 225. South of Lucipara-island. Reef. 1 Spec.
De Bril near Makassar. Kraay don. 1 Spec.
*Enkhuizen-island near Batavia. 9 Spec.

The specimens vary considerably in shape, size and colour, those from Stat. 7 are unusually elongate, the largest specimen measuring 30 Mill. in length and 18 in breadth.

14. *Cypraea (Luponia) tigris* Linné.

Linné. Syst. Nat. Ed. X, p. 721, N° 302.
Rumph. Amb. Rariteitkamer, p. 113, Pl. 38, fig. A.
Kiener. Coq. Viv. Vol. I, p. 4, Pl. 1, fig. 1; Pl. 45, fig. 1; Pl. 46, fig. 1.
Reeve. Conch. Ic. Vol. III, Cypraea, fig. 12.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 91, Pl. 28, 29, 30, fig. 1.
Tryon. Man. of Conch. Vol. VII, p. 180, Pl. 11, fig. 49, 50.

Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands. Sulu-archipelago. 12 M. Lithothamnion-bottom, Sand and coral. 2 Spec.
Stat. 142. Laiwui, North coast of Obi Major. Reef. 2 Spec.
Stat. 172. Island of Gisser. Reef. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.
Stat. 213. Pulu Pasi near Saleyer. 1 Spec.

15. *Cypraea (Luponia) vitellus* Linné.

Linné. Syst. Nat. Ed. X, p. 721, N° 300.
Rumph. Amb. Rariteitkamer, p. 115, Pl. 38, fig. L.
Kiener. Coq. Viv. Vol. I, p. 12, Pl. 19, fig. 1.
Reeve. Conch. Ic. Vol. III, Cyprae, fig. 14.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 38, Pl. 11, fig. 6, 7, 10, 11.
Tryon. Man. of Conch. Vol. VII, p. 182, Pl. 13, fig. 72, 73.

Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom, sand and coral. 2 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 1 Spec.
Stat. 225. South of Lucipara-island. Reef. 3 Spec.

16. *Cypraea (Luponia) lynx* Linné.

Linné. Syst. Nat. Ed. X, p. 721, N° 303.
Rumph. Amb. Rariteitkamer, p. 115, Pl. 38, fig. N.
Kiener. Coq. Viv. Vol. I, p. 10, Pl. 25, fig. 2; Pl. 38, fig. 2.
Reeve. Conch. Ic. Vol. III, Cypraea, fig. 33.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 79, Pl. 23, fig. 6, 7, 10, 11.
Tryon. Man. of Conch. Vol. VII, p. 183, Pl. 14, fig. 86, 87.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 10—27 M. River-mud, coral, coral-sand. 2 Spec.
Stat. 47. Bay of Bima. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 60. Haingsisi, Samau-island. Reef. 1 Spec.
Stat. 89. Pulu Kaniungan Ketjil. Reef. 3 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom, sand and coral. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Reef. 6 Spec.
Stat. 225. South of Lucipara-island. Reef. 4 Spec.
Stat. 250. Kur. Reef. 1 Spec.

Varying in size; the specimens from Stat. 47, 89, 93 and 225 are very small and young, their identification consequently remains a little uncertain.

17. *Cypraea (Luponia) errones* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 723, N$^0$ 311.
RUMPH. Amb. Rariteitkamer, p. 118, Sp. 5 (*Casuaris Eijers*) Sp. 6, Pl. 39, fig. E?
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 56.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 20, Pl. 4, fig. 10, 12?
TRYON. Man. of Conch. Vol. VII, p. 183, Pl. 14, fig. 7.

Stat. 34. Labuan Pandan, Lombok. Coralreef. 2 Spec.
Stat. 58. Seba, Savu. Reef. 1 Spec.
Stat. 60. Haingsisi, Samau-island. Reef. 1 Spec.
Stat. 86. Dongala, Palos-bay. Celebes. Shore. 1 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom, sand and coral. 1 Spec.
Stat. 213. Saleyer. Reef. 1 Spec.
Stat. 225. South of Lucipara-island. Reef. 2 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.
Stat. 282. Between Nusa Besi and N. E. point of Timor. 27—54 M. Sand, coral and Lithothamnion. 1 Spec.
*Amboina. 2 Spec.

The very young specimen from Stat. 282 is of doubtful identification, the specimens from the Stations 93, 225 and Amboina are conchologically intermediate between the type and var. *ovum* Gmel., they have the large brown spot on the back, but not those near the anterior canal, the shape of the aperture however is in accordance with that of the type.

var. *ovum* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3412.
KIENER. Coq. Viv. Vol. I, p. 56, Pl. 29, fig. 4.
TRYON. Man. of Conch. Vol. VII, Pl. 14, fig. 88, 89.
DAUTZENBERG. Journ. de Conch. 1902, p. 348.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 1 Spec.
Stat. 71. Pulu Barang, near Makassar. Shore. 2 Spec.

The specimens agree with the elucidations in DAUTZENBERG's paper, they have neither the large brown blotch, nor smaller brown spots near the front-end, but are provided with an orange streak between the teeth.

18. *Cypraea (Luponia) pyriformis* Gray.

GRAY. Zool. Journ. I, p. 371.
KIENER. Coq. Viv. Vol. I, fig. 42, Pl. 55, fig. 2.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 52.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 59, Pl. 18, fig. 2, 3.
TRYON. Man. of Conch. Vol. VII, p. 184, Pl. 14, fig. 5, 6.

Stat. 285. South coast of Timor. 34 M. On the limit between mud and coral. 1 Spec.

19. *Cypraea (Luponia) Walkeri* Gray.

GRAY. Descr. Cat. Cypraeidae, p. 11.
KIENER. Coq. Viv. Vol. I, p. 33, Pl. 14, fig. 3.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 50*a, b*.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 78, Pl. 23, fig. 1, 4.
TRYON. Man. of Conch. Vol. VII, p. 185, Pl. 15, fig. 10; Pl. 17, fig. 68.

Stat. 77. Borneo-bank. 59 M. Fine, grey coralsand. 1 Spec.
Stat. 99. North-Ubian, Sulu-archipelago. 16—23 M. Lithothamnion-bottom. 5 Spec.
Stat. 109. Pulu Tongkil, Sulu-archipelago. 13 M. Lithothamnion-bottom. 3 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 4 Spec.

The suggestion of Mr. J. BRAZIER, that this species should live in deep water, has not been confirmed by the collection of the Siboga-Expedition. The specimens vary considerably in colour-pattern, that from Stat. 77 is much bleached, those from Stat. 99 have a broad brown band in the centre of the back, bordered by narrow zones of a light colour and a few spiral rows of brown blotches. A very young specimen from that locality, with scarcely any traces of teeth, is uniformly brown on the back, whitish near the produced spire and along the right margin of the aperture; those from Stat. 109 have but a few brown blotches near the dark central band (broken up in one specimen), that from Stat. 164 has only a single indistinct band; the specimens from Stat. 313 are very similar; these differences seem to be only individual, I have failed to recognize one of the described varieties amongst them.

20. *Cypraea (Luponia) zicczac* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 722, N° 307.
KIENER. Coq. Viv. Vol. I, p. 22, Pl. 31, fig. 2*a*.
REEVE. Conch Ic. Vol. III, Cypraea, fig. 97.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 94, Pl. 28, fig. 10—13.
TRYON. Man. of Conch. Vol. VII, p. 187, Pl. 15, fig. 12, 13.

Stat. 66. Bank between islands of Bahuluwang and Tambolungan, south of Saleyer. 8 M. Dead coral, Halimeda, Lithothamnion. 1 Spec.
Stat. 99. North-Ubian, Sulu-archipelago. 16—23 M. Lithothamnion-bottom. 1 Spec.
Stat. 313. East of Dangar-Besar, Saleh-bay. Up to 36 M. Sand, coral and mud, and reef. 3 Spec.

The specimens belong to the colour-variety, with white lines arranged into distinct bands.

21. *Cypraea (Luponia) lutea* Gronovius.

GRONOVIUS. Zoophylac. fasc. 3, Pl. 19, fig. 17.
KIENER. Coq. Viv. Vol. I, p. 40, Pl. 14, fig. 4 (*Humphreysii*).
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 110*c*.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V. Cypraea, p. 93, Pl. 28, fig. 6—9.
TRYON. Man. of Conch. Vol. VII, p. 187, Pl. 16, fig. 35, 36.

Stat. 213. Saleyer. Reef. 1 Spec.

The only specimen is a rather young one, with two white bands and a few brown spots on the back of the shell.

22. *Cypraea (Luponia) asellus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 722, N⁰ 309.
RUMPH. Amb. Rariteitkamer, p. 118, Pl. 39, fig. M.
KIENER. Coq. Viv. Vol. I, p. 93, Pl. 31, fig. 3.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 98.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 16, Pl. 4, fig. 1, 2.
TRYON. Man. of Conch. Vol. VIII, p. 187, Pl. 16, fig. 34.

Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Shore. 1 Spec.

23. *Cypraea (Luponia) clandestina* Linné.

LINNÉ. Syst. Nat. Ed. XII, p. 1177.
KIENER. Coq. Viv. Vol. I, p. 30, Pl. 31, fig. 4.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 106.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 81, Pl. 24, fig. 1, 4.
TRYON. Man. of Conch. Vol. VII, p. 187, Pl. 16, fig. 37, 38.

Stat. 60. Haingsisi, Samau-island. Reef. 1 Spec.

The specimen is very young, still in the *Bulla*-state, it displays very beautifully the red hair-lines, though not so strong as in the perhaps exaggerated figure of WEINKAUFF (l. c.).

24. *Cypraea (Luponia) cribraria* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 723, N⁰ 310.
KIENER. Coq. Viv. Vol. I, p. 26, Pl. 29, fig. 1.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 81.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 115, Pl. 34, fig. 10, 11.
TRYON. Man. of Conch. Vol. VII, p. 190, Pl. 17, fig. 71, 72.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

25. *Cypraea (Luponia) miliaris* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3402.
KIENER. Coq. Viv. Vol. I, p. 59, Pl. 8, fig. 2 (*Lamarckii*).
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 36.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 110, Pl. 33, fig. 9, 12.
TRYON. Man. of Conch. Vol. VII, p. 192, Pl. 17, fig. 80.

Stat. 163. Seget, West entrance Selee (Galewo)-strait. 29 M. Sand and stone, mixed with mud. 1 Spec.
Stat. 313. Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.

26. *Cypraea (Luponia) erosa* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 723, N⁰ 315.
RUMPH. Amb. Rariteitkamer, p. 117, Pl. 39, fig. A.
KIENER. Coq. Viv. Vol. I, p. 53, Pl. 9, fig. 2, 3.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 43.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 107, Pl. 33, fig. 1—4.
TRYON. Man. of Conch. Vol. VII, p. 192, Pl. 18, fig. 90, 100, 1.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.
Stat. 47. Bay of Bima, near South fort. Shore. 2 Spec.
Stat. 89. Pulu Kaniungan Ketjil. Reef. 2 Spec.
Stat. 91. Muaras-reef, inner side, East coast of Borneo. Up to 54 M. Hard coralsand. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Reef. 1 Spec.
Stat. 213. Saleyer. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 3 Spec.
Stat. 285. South coast of Timor. 34 M. Lithothamnion. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.
*Amboina. 1 Spec.

The specimens belong to the form with well-developed margins; those from Stat. 47 have red lines on the margins and the base, thus approaching the var. *nebrites* Melv. (Cat. Cypraea, Mem. and Proc. Manch. Soc. 1888, p. 223).

27. *Cypraea (Luponia) helvola* Linné.

Linné. Syst. Nat. Ed. X, p. 724, N⁰ 316.
Rumph. Amb. Rariteitkamer, p. 117, Pl. 39, fig. B.
Kiener. Coq. Viv. Vol. I, p. 68, Pl. 28, fig. 1.
Reeve. Conch. Ic. Vol. III, Cypraea, fig. 72.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 116, Pl. 35, fig. 1—4.
Tryon Man. of Conch. Vol. VII, p. 194, Pl. 19, fig. 8, 9.

Stat. 79[b]. Pulu Kabala-dua, Borneo-bank. Reef. 1 Spec.
Stat. 81. Pulu Sebangkatan, Borneo-bank. Reef. 2 Spec.
Stat. 89. Pulu Kaniungan Ketjil. Reef. 1 Spec.
Stat. 172. Island of Gisser. Reef. 1 Spec.

28. *Cypraea (Luponia) flaveola* Linné.

Linné. Syst. Nat. Ed. X, p. 724, N⁰ 320.
Reeve. Conch. Ic. Vol. III, Cypraea, fig. 95.
Tryon. Man. of Conch. Vol. VII, p. 195, Pl. 19, fig. 20—22.
Dautzenberg. Journ. de Conchyl. 1902, p. 369.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 2 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. Reef. 1 Spec.
Stat. 96. South side of Pearl-bank, Sulu-archipelago. 15 M. Lithothamnion-bottom. 1 Spec.
Stat. 99. North-Ubian. 16—23 M. Lithothamnion-bottom. 1 Spec.
Stat. 248. Rumah Lusi, North-point of Tiur-island. Reef. 1 Spec.
Stat. 282. Between Nusa Besi and N. E. point of Timor. 27—54 M. Sand, coral and Lithothamnion. 2 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 1 Spec.
Stat. 299. Buka or Cyrus-bay, South coast of Rotti-island. Up to 36 M. Mud, coral and Lithothamnion. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.

I have followed the quoted authors in occupying the name *flaveola* Lin. for this shell; Weinkauff (Mon. Cypraea, p. 103) says that it should be only a variety of *C. gangrenosa*, and that the true *C. flaveola* Lin., might be a small variety of *C. spurca* Lin. It is no doubt nearly allied to the next species.

29. *Cypraea (Luponia) gangrenosa* Solander.

SOLANDER. Dillwyn. Descr. Cat. I, p. 465.
KIENER. Coq. Viv. Vol. I, p. 50, Pl. 50, fig. 2.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 96.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 121, Pl. 36, fig. 2, 3.
TRYON. Man. of Conch. Vol. VII, p. 195, Pl. 19, fig. 18, 19.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.

30. *Cypraea (Pustularia) staphylea* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 725, N$^0$ 324.
KIENER. Coq. Viv. Vol. I, p. 48, Pl. 36, fig. 2.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 82*b*.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 117, Pl. 35, fig. 5—8.
TRYON. Man. of Conch. Vol. VII, p. 196, Pl. 20, fig. 39, 40.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.
Stat. 60. Haingsisi, Samau-island. Reef. 1 Spec.
Stat. 66. Bank between Bahuluwang and Tambolungan, South of Saleyer. 8 M. Dead coral, Lithothamnion. 2 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 1 Spec.
Stat. 306. 8° 27′ S., 122° 54′.5 E. Flores Sea. 247 M. Sandy mud. 1 Spec.

The shell from Stat. 306 is a worn, quite bleached specimen, this accounts for the great depth at which it has been dredged, it will most probably have been washed down.

31. *Cypraea (Pustularia) limacina* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 536.
KIENER. Coq. Viv. Vol. I, p. 47, Pl. 35, fig. 1; Pl. 22, fig. 2.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 82*a* (*staphylea* var.).
TROSCHEL. Gebiss der Schnecken. Vol. I, p. 213, Pl. 17, fig. 19.
TRYON. Man. of Conch. Vol. VII, p. 196, Pl. 20, fig. 42—44 (*interstincta*).

Stat. 99. North-Ubian. 16—23 M. Lithothamnion-bottom. 1 Spec.

Though I must admit that the characters of the radula are often insufficient to decide upon the specific value of species, the differences between the radula of the species under consideration and the preceding one, seem to be of too much importance, to consider them as varieties of one and the same species. It would be interesting to examine the radulae of specimens which conchologically are intermediate, and to make out, to which of the two forms they are the nearest allies.

32. *Cypraea (Pustularia) nucleus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 724, N$^0$ 323.
RUMPH. Amb. Rariteitkamer, p. 118, Pl. 39, fig. I.
KIENER. Coq. Viv. Vol. I, p. 127, Pl. 3, fig. 2.
REEVE. Conch. Ic. Vol. III. Cypraea, fig. 70.

WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 130, Pl. 37, fig. 13, 14.
TRYON. Man. of Conch. Vol. VII, p. 197, Pl. 20, fig. 48, 49.

Stat. 53. Bay of Nangamessi, Sumba. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.

## Trivia Gray.

1. *Trivia oryza* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 543 (*Cypraea*).
RUMPH. Amb. Rariteitkamer, p. 118, Pl. 39, fig. P.
KIENER. Coq. Viv. Vol. I, Cypraea, p. 140, Pl. 52, fig. 2, 2*a*.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 140.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 153, Pl. 5, fig. 12, 13; Pl. 41, fig. 13—16.
TRYON. Man. of Conch. Vol. VII, p. 200, Pl. 21, fig. 82, 83.

Stat. 58. Seba, Savu. Reef. 1 Spec.
Stat. 213. South-island near Saleyer. Reef. 1 Spec.
Stat. 234. Nalahia, Nusa-Laut-island. Reef. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 250. Kilsuin, West coast of Kur-island. Reef. 1 Spec.

forma *minor*.

Stat. 37. Sailus Ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.
Stat. 66. Bank between islands of Bahuluwang and Tambolungan, South of Saleyer. 8—10 M. Dead coral, Halimeda and Lithothamnion. 4 Spec.
Stat. 95. 5°43′.5 N., 119°40′ E. Sulu Sea. 522 M. Stony bottom. 2 Spec.
Stat. 98. 6°9′ N., 120°21′ E. Sulu Sea. 350 M. Sand. 2 Spec.
Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.
Stat. 225. South Lucipara-island. Reef. 1 Spec.

The specimens which I have united under the name *minor* are considerably smaller than the typical ones, the largest having only a length of $7^1/_2$, the smallest of 5 Mill. Some of them show a tendency to become rostrate, and thus form a passage to the next variety.

var. *scabriuscula* Gray.

GRAY. Zoological Journal. Vol. III, p. 364.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 152, Pl. 41, fig. 10, 11.
TRYON. Man. of Conch. Vol. VII, p. 200, Pl. 21, fig. 79.

Stat. 37. Sailus-Ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 6 Spec.
Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 3 Spec.
Stat. 59. Western entrance Samau-strait. 390 M. Coarse coralsand with small stones. 3 Spec.
Stat. 66. Bank between islands of Bahuluwang and Tambolungan. 8—10 M. Dead coral, Halimeda and Lithothamnion. 2 Spec.
Stat. 91. Muaras-reef, inner side, East coast of Borneo. 54 M. Hard coralsand. 1 Spec.
Stat. 99. North-Ubian. 16—23 M. Lithothamnion-bottom. 1 Spec.
Stat. 144. North of Salomakiëe-(Damar)-island. 45 M. Coral bottom and Lithothamnion. 1 Spec.
Stat. 240. Banda. 9—36 M. Lithothamnion. 1 Spec.

This variety has been considered as a separate species, as a variety and even merely as a synonym, I have applied the name to specimens, which are conspicuously beaked, but they are connected to the type by the former var.; only one specimen from Stat. 37 is of nearly typical size, being $10^1/_2$ Mill. in length, the other specimens may belong to GRAY's var. β *minor*, though his type of that variety, seems to be more elongate ("$^1/_5$ of an inch long, and $^1/_{10}$ of an inch broad", GRAY l. c.).

2. *Trivia insecta* Mighels.

MIGHELS. Proc. Boston Soc. nat. hist. Vol. II, 1845, p. 24.
KIENER. Coq. Viv. Vol. I, Cypraea, p. 149, Pl. 54, fig. 5, 5*a* (*hordacea*).
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 162, Pl. 43, fig. 5, 8 (*hordacea*).
TRYON. Man. of Conch. Vol. VII, p. 200, Pl. 21, fig. 84, 85.

Stat. 220. Pasir Pandjang, West coast of Binongka. 55 M. Coralsand. 1 Spec.

The only specimen is very small, having only a length of about $3^1/_4$ Mill.

3. *Trivia globosa* Gray.

GRAY. Descript. Catalogue p. 14.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 152.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 151, Pl. 14, fig. 6, 7.
TRYON. Man. of Conch. Vol. VII, p. 200, Pl. 21, fig. 92, 93.

Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.

DAUTZENBERG (Journ. de Conch. Vol. 50, p. 382) records this species from New Caledonia and Lifu, on the authority of ROSSITER and LAMBERT.

4. *Trivia brevissima* Sowerby.

SOWERBY. Thes. Conch. Vol. IV, Cypraea, p. 47, Pl. 37, fig. 523, 524.
TRYON. Man. of Conch. Vol. VII, p. 204, Pl. 21, fig. 90, 91.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.

In the original description SOWERBY says: "sulco dorsali nullo aut inconspicuo"; TRYON has located the species in his section without dorsal impression. In consequence I cannot agree with the view that *Cypraea pilula* Kiener should be a synonym; KIENER says that the dorsal impression is rather deep in his species. WEINKAUFF (Conch. Cab. Ed. II, Cypraea, p. 159) says also, dealing with *C. pilula*: "linea dorsali impressa" and adds in a footnote that the lithographer has forgotten it in the figure. The Siboga-specimen has a very shallow impression, much less conspicuous than the specimen of the former species.

5. *Trivia abyssicola* n. sp. Pl. XI, fig. 1.

Stat. 59. Western entrance Samau-strait. 390 M. Coarse coralsand with small stones. 1 Spec.
Stat. 98. 6°9' N., 120°21' E. Sulu Sea. 350 M. Sand. 1 Spec.
Stat. 105. 6°8 N., 121°19' E. Sulu Sea. 275 M. Coralbottom. 3 Spec.

Shell ovate, moderately inflate, white, pellucid, right margin thickened, extremities slightly produced, especially the anterior one, with rather numerous ribs, of which the majority runs from one side to the other and a few intermediate ones, no dorsal sulcus. Aperture rather wide, especially towards the front, slightly arcuate, its right margin but little inflected, thickened exteriorly, strongly crenulated by the ribs, which form from 18 to 21 teeth; anterior sinus wide, posterior one narrower by a crenulated callus, columellar margin not thickened, with about 20 teeth, the interstices of the ribs of both the right and columellar margin granulous, the interstices on the back smooth.

Long. 7, lat. 5, alt. 4 Mill.

The species resembles amongst the white ones without dorsal impression, in some respects *T. pellucidula* Gaskoin, which has however much more and finer ribs. One of the specimens from Stat. 105 contains the soft parts and may serve as a proof that the species lives at the recorded great depth.

6. *Trivia paucicostata* n. sp. Pl. XI. fig. 2.

Stat. 95. 5°43'.5 N., 119°40' E. Sulu Sea. 522 M. Stony bottom. 3 Spec.

Shell shortly ovate, swollen, greyish-white (perhaps flesh-coloured in life), with few strong ribs and rather wide, smooth interstices, considerably broader than the ribs; no dorsal impression, the majority of the ribs runs from one side to the other, with a few intermediate ones which don't reach the centre. Aperture rather wide, running on the right side of the ventral face, slightly wider at the anterior end. Right margin relatively thin, with a thickened rib exteriorly and only 13 teeth, columellar margin with about 14 teeth, slightly excavated interiorly, front sinus large, posterior one narrower, with a small callosity on the left side, anterior end slighty rostrate or produced; interstices of the ribs on the apertural margins granose.

Long. $8^1/_2$, lat. $6^3/_4$, alt. $5^1/_2$ Mill.

This and the next species resemble some of the South-African species by their aperture, which lies on the right side of the base, and is larger than usually in *Trivia*. In sculpture, but not in shape, it resembles *T. Buttoni* Melv. (Ann. Mag. Nat. Hist. Ser. 7, Vol. VI, 1900, p. 209) this species is however more regularly ovate in outline, the dorsal view of the new species being subtrigonal, in consequence of the blunt posterior part, in *Buttoni* the aperture is much narrower and is situated more centrally.

7. *Trivia sibogae* n. sp. Pl. XI, fig. 3.

Stat. 105. 6°8' N., 121°19' E. Sulu Sea. 275 M. Coralbottom. 3 Spec.

Shell shortly-ovate, globose, thin, light flesh-coloured, with numerous rather strong ribs and smooth interstices, which are but a little broader than the ribs, no dorsal impression; several of the ribs don't reach the centre, while others run from one side to the other. Aperture rather wide, slightly enlarged towards the front part, placed at the right side of the ventral face. Right margin slightly involved, strongly thickened exteriorly, its inner margin with 19 or 20 teeth;

columellar margin with about 21 teeth and a crenulated callosity at its upper part, bordering the posterior, rather wide sinus; anterior sinus slightly larger and produced, columellar margin excavated interiorly, towards the anterior sinus; margins of the aperture granulose in the interstices.

Long. 12, lat. 9, alt. $8^1/_4$ Mill., smaller specimen Long. $9^1/_2$, lat. $7^1/_2$, alt. $6^1/_2$ Mill.

forma *minor*. Pl. XI, fig. 4.

Stat. 95. 5°43'.5 N., 119°40' E. Sulu Sea. 522 M. Stony bottom. 4 Spec.
Stat. 315. East of Sailus-Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

Two specimens from Stat. 95 are still smaller, being only $7^1/_2$ Mill. in length, but agree in most respects, in sculpture with the type, however the ribs are slightly coarser, the teeth of the right margin less numerous (15 and 17), the other specimens and that from Stat. 315 are a little doubtful, as they are still considerably smaller, length only 6 Mill., the aperture is not so large and the right margin thicker; as they are dead shells, I prefer to keep them under one name with the variety, instead of describing a new species on a few gradual differences. This species with its variety, differs from the former one, by its much more numerous ribs with numerous intermediate ones, the larger number of teeth and inflated shape.

### **Erato** Risso.

1. *Erato gallinacea* (Hinds Mss) Reeve.

Reeve. Conch. Ic. Vol. XV, Erato, fig. 7.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Erato, p. 150, Pl. 24, fig. 14, 15.
Tryon. Man. of Conch. Vol. V, p. 10, Pl. 4, fig. 46.

Stat. 37. Sailus Ketjil, Paternoster-islands. Up to 18 M. Coral and coralsand. 2 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.

The specimens agree very will with the figures and descriptions, but they have small granules on the spire and towards the base of the shell.

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## Fam. Amphiperasidae Adams.

### **Amphiperas** Gronovius.

1. *Amphiperas ovum* Linné.

Linné. Syst. Nat. Ed. X, p. 725, N° 327.
Rumph. Amb. Rariteitkamer, p. 115, Pl. 38, fig. Q.
Kiener. Coq. Viv. Vol. I, Ovula, p. 3, Pl. 1 and Pl. 3, fig. 5 (*oviformis*).
Reeve. Conch. Ic. Vol. XV, Ovulum, fig. 3.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 168, Pl. 44, fig. 2, 4, 5.
Tryon. Man. of Conch. Vol. VII, p. 246, Pl. 1, fig. 11, 12.

Stat. 213. Saleyer. Reef. 1 Spec.
Stat. 231. Amboina. Reef. 1 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. 22 M. Mud, coral and Lithothamnion. 1 Spec.

Both specimens are very young; a figure after a living animal has been given in Monograph L of this work, amongst the Opisthobranchiata, Pl. V, fig. 21.

2. *Amphiperas lacteum* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 469.
KIENER. Coq. Viv. Vol. I, Ovula, p. 8, Pl. 6, fig. 1.
REEVE. Conch. Ic. Vol. XV, Ovulum, fig. 1.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 170, Pl. 44, fig. 1, 2.
TRYON. Man. of Conch. Vol. VII, p. 247, Pl. 2, fig. 2, 23, 24.

Stat. 66. Bank between islands of Bahuluwang and Tambolungan, South of Saleyer. 8 M. Dead coral, Halimeda, Lithothamnion. 2 Spec.
Stat. 131. Beo, Karakelang-islands. Reef. 1 Spec.

I think TRYON is right in uniting *A. semistriatum* with this species. Indeed I have never seen fresh specimens of *A. lacteum*, without more or less impressed striae at both extremities of the shell.

3. *Amphiperas pudicum* A. Adams.

ADAMS. Proc. Zool. Soc. Lond. 1854, p. 131.
REEVE. Conch. Ic. Vol. XV, Ovulum, fig. 6.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 172, Pl. 45, fig. 3, 4.
TRYON. Man. of Conch. Vol. VII, p. 247, Pl. 2, fig. 29—31.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 98. 6° 9′ N., 120° 21′ E. Sulu Sea. 350 M. Sand. 1 Spec.
Stat. 285. South coast of Timor. 36 M. Limit between mud and coral. 1 Spec.

The specimens are very small, that from Stat. 285 measures only 8 Mill. in length, that from Stat. 98, which is the largest, 11 Mill.; this latter specimen, which may have been washed down to that considerable depth, is bleached and shows only traces of striae on both extremities, which are more distinct on the two other specimens; this latter character reminds *A. caledonicum* Crosse, but that species has been described as "striated", without the restriction that this should only be at the extremities. Now of the specimens under consideration, that from Stat. 98 is nearly quite smooth, with only a few striae at the posterior extremity and perhaps one or two at the anterior one, that from Stat. 285 has anterior and posterior striae and is smooth at the central part of the back, and that from Stat. 2 has also a few indistinct striae on the back, but it is not decussated, as it should be in *A. caledonicum*, nor can I detect brown spots on the back, for the spots I see on the last-named specimen, seem to be accidental.

4. *Amphiperas margarita* Sowerby.

SOWERBY. Spec. Conchyl. Vol I, part I, Ovulum, p. 4, fig. 19, 20.
KIENER. Coq. Viv. Vol. I, Ovula, p. 11, Pl. 6, fig. 4.
REEVE. Conch. Ic. Vol. XV, Ovulum, fig. 10.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 145, Pl. 46, fig. 2, 3.
TRYON. Man. of Conch. Vol. VII, p. 248, Pl. 2, fig. 34, 35.

Stat. 49a. Sapeh-strait. 69 M. Coral and shells. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The largest specimen from Stat. 164 measures 16 Mill. in length, that from Stat. 313 only $8^1/_2$ Mill.

5. *Amphiperas concinnum* Adams & Reeve.

Adams and Reeve. Voy. Samarang. Moll. p. 22, Pl. 6, fig. 8.
Reeve. Conch. Ic. Vol. XV, Ovulum, fig. 21.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 182, Pl. 47, fig. 5, 8.
Tryon. Man. of Conch. Vol. VII, p. 249, Pl. 3, fig. 59, 60, 74.

Stat. 252. Near Taam-island. 27 M. Coralsand. 1 Spec.

6. *Amphiperas roseomaculatum* n. sp. Pl. XI, fig. 10.

Stat. 98. 6°9' N., 120°21' E. Sulu Sea. 350 M. Sand. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.

Shell small, pyriform, strongly angular on the back, the extremities elongate, thin, transparent white, with rose-coloured, irregular spots, arranged in three bands, one near the spire, one near the centre before the angle, the third near the anterior part, moreover the extremities are rosetinted. Sculpture consisting of rather broad, waved, impressed striae, which are shallow, but at least half as broad as the lirae, they are crossed by fine growth-striae, which are partly stronger, so as to render the surface here and there cancellated; the angle is placed on the posterior half, the shell is rapidly contracted towards the posterior part, regularly contracted towards the anterior part. Aperture narrow, angular, with a short canal at both extremities; outer margin thickened, with numerous fine teeth on the front part, much stronger towards the spire, where they cross the thickened margin and render it crenulate on its external margin, being visible in the dorsal view; columellar margin with a crenulate callus behind, a fold borders the front canal, this margin is excavated internally; a thin layer of enamel covers the columellar side of the shell.

Long. $8^3/_4$, lat. 5 Mill.

This species is nearly allied to *A. concinnum*, but differing in many particulars, the shell is stronger angulate, more rapidly contracted towards the spire, a line from the angle of the back towards the spire being nearly straight in *A. concinnum*, strongly excavated in the new species, the striae are much coarser, the lirae narrower, the teeth of the outer margin are stronger, the shell is thinner and different in colour.

The specimen from Stat. 164 is still young, the teeth on the thinner margin are not yet developed.

7. *Amphiperas striatulum* Sowerby.

Sowerby. Species Conchyliorum. Vol. I, part I, Ovulum, p. 7, fig. 38.
Reeve. Conch. Ic. Vol. XV, Ovulum, fig. 28.

WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 186, Pl. 48, fig. 2, 3.
TRYON. Man. of Conch. Vol. VII, p. 250, Pl. 3, fig. 76, 77.

Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 3 Spec.

The three specimens are slightly different from each other, the smallest agrees with the original description, being small and white, however with orange-coloured extremities (perhaps SOWERBY's specimen was a bleached one), the other adult one is larger but agrees with the descriptions of REEVE and WEINKAUFF, the third is a young shell, with a thin right margin; its colour is white on the ventral side, light orange-red on the back, with 3 white bands; perhaps this depends on age. I can see no reason to distinguish this juvenile specimen by a new name, only on partly different colour.

8. *Amphiperas (Cyphoma) formosum* Adams & Reeve.

ADAMS & REEVE. Voy. Samarang, Moll. p. 22, Pl. 6, fig. 6.
REEVE. Conch. Ic. Vol. XV, Ovulum, fig. 39.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 189, Pl. 48, fig. 10, 11.
TRYON. Man. of Conch. Vol. VII, p. 251, Pl. 4, fig. 15, 16.

Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 213. Saleyer. 9—34 M. Mud and mud with sand. 4 Spec.
Stat. 310. 8°30' S., 119°7'.5 E. Flores Sea. 73 M. Sand with few pieces of dead coral. 1 Spec.

One of the specimens from Saleyer, with the living animal, has been figured in the Monograph on the Opisthobranchiata of this work, on Plate 5, fig. 20.

9. *Amphiperas (Cyphoma) Semperi* Weinkauff.

WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 190, Pl. 48, fig. 14, 15.
REEVE. Conch. Ic. Vol. XV, Ovulum, fig. 37 (*hordaceum*).
TRYON. Man. of Conch. Vol. VII, p. 251, Pl. 4, fig. 17, 18; Pl. 5, fig. 19.

Stat. 240. Banda. Reef. 2 Spec.
Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

WEINKAUFF (l. c.) calls this species *O. Sempieri*, evidently by error, for in his Catalogue of the genus *Ovula* (Jahrb. der deutschen Mal. Gesellsch. 1882, p. 174) he writes the name *Semperi*.

The specimen from Stat. 315 is more typical, purplish, with narrow aperture; those from Banda are pale yellow, with larger aperture, like TRYON's fig. 19.

10. *Amphiperas (Radius) volva* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 725, N° 328.
KIENER. Coq. Viv. Vol. I, Ovula, p. 26, Pl. 4, fig. 1.
REEVE. Conch. Ic. Vol. XV, Ovulum, fig. 41.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 196, Pl. 50, fig. 4, 5.
TRYON. Man. of Conch. Vol. VII, p. 252, Pl. 4, fig. 94, 95.

Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 260. Near Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 318. 6° 36'.5 S., 140° 55'.5 E. Java Sea. 88 M. Fine, yellowish-grey mud. 1 Spec.

The specimen from Stat. 260 is very young.

11. *Amphiperas (Radius) philippinarum* Sowerby.

SOWERBY. Proc. Zool. Soc. 1848, p. 136.
REEVE. Conch. Ic. Vol. XV, Ovulum, fig. 46.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 199, Pl. 51, fig. 2, 3.
TRYON. Man. of Conch. Vol. VII, p. 252, Pl. 4, fig. 100, 1.

Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 5 Spec.
Stat. 310. 8° 30' S., 119° 7'.5 E. Flores Sea. 73 M. Sand with few pieces of dead coral. 1 Spec.

The specimen from Stat. 310 is still very young and a little doubtful, those from Stat. 273 are fine and adult. I think TRYON has gone too far in uniting so many species to *A. philippinarum*, so I have recorded the two next forms as separate species.

The radula is long, yellowish-brown and consists of a large number of transverse rows of teeth. The rhachidian tooth (R) has a broad sub-quadrangular body with convex upper and basal margin, a long sharp median denticle and 3 smaller ones on each side, the laterals (1) have an elongate body ending in a tail on the distal side and a tricuspid cusp, composed of a very large central denticle and a small one on each side, the uncini have the ordinary comblike structure, the inner one has 15 denticles, of which the majority is simple, only a few of the distal ones and sometimes one or two others are bifid, the denticles of the outermost of the uncini are as a rule bifid, in a few I see three cusps, the number of denticles is about 40, with a knoblike one at the distal extremity.

12. *Amphiperas (Radius) Angasi* (Adams) Reeve.

REEVE. Conch. Ic. Vol. XV, Ovulum, fig. 43.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 199, Pl. 51, fig. 5, 8.
TRYON. Man. of Conch. Vol. VII, p. 252, Pl. 4, fig. 3, 4 (*philippinarum* pars).

Stat. 164. 1° 42.5 S., 130° 47.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 4 Spec.
Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

The specimen from Stat. 164 is a dead shell with impressed striae over the whole surface, this may however depend on the circumstance that the shell is slightly worn, as I see traces of these striae in a fresh but young specimen from Stat. 273. The shell is in comparison much narrower than the preceding one, the shape is more elegant, in fresh specimens the tips are slightly rosy.

The radula resembles in many respects that of the former species. The rhachidian tooth (R) has a sub-quadrangular body, with a long median denticle and two smaller ones at each side; the laterals (1) with their tailed body, have also a long cusp with one smaller denticle on the inner, two very small ones on the outer margin. The uncini are comblike, with usually simple and a few bifid denticles amongst the inner ones and bi- and trifid in the outer ones.

As far as may be judged from a single radula of each species, its characters, in connection with the conchological ones, are favorable to the specific distinctness of the two forms.

13. *Amphiperas (Radius) deflexum* Sowerby.

SOWERBY. Proc. Zool. Soc. Lond. 1848, p. 136.
REEVE. Conch. Ic. Vol. XV, Ovulum, fig. 56.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 206, Pl. 52, fig. 6, 7.
TRYON. Man. of Conch. Vol. VII, p. 252, Pl. 4, fig. 8.

Stat. 98. 6°9′ N., 120°21′ E. Sulu Sea. 350 M. Sand. 1 Spec.
Stat. 213. Saleyer. Reef. 1 Spec.

The specimen from Saleyer is a fine, adult one, that from Stat. 98 is worn and partly broken, consequently it remains doubtful; probably washed down.

14. *Amphiperas (Radius) birostre* Linné.

LINNÉ. Syst. Nat. Ed. XII, p. 1182.
KIENER. Coq. Viv. Vol. I, Ovula, p. 24, Pl. 5, fig. 1.
REEVE. Conch. Ic. Vol. XV, Ovulum, fig. 45.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 200, Pl. 5, fig. 22, 23.
TRYON. Man. of Conch. Vol. VII, p. 253, Pl. 4, fig. 10, 11.

Stat. 164. 1°42′.5 S., 130°47′.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 2 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 2 Spec.

One of the specimens from Stat. 164 is young, the other though by its thickened peristome evidently nearly adult is very small, measuring only 23 Mill. in length, those from Stat. 273 are typical.

15. *Amphiperas (Neosimnia) secale* Sowerby.

SOWERBY. Species Conchyliorum. Vol. I, Part I, Ovulum, p. 8, fig. 36.
REEVE. Conch. Ic. Vol. XV, Ovulum, fig. 66.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 210, Pl. 53, fig. 6, 7.
TRYON. Man. of Conch. Vol. VII, p. 254, Pl. 5, fig. 28, 29.

Stat. 253. 5°48′.2 S., 132°13′ E. Arafura Sea. 304 M. Grey clay, hard and crumbly. 5 Spec.

The depth at which the specimens have been captured, makes a somewhat exceptional appearance amongst the other species of the genus[1]); the specimens contain the soft parts and so one may conclude that they will have lived on the collecting-ground.

The rhachidian tooth (R) of the radula has a broad, angular body, with a rounded basal line, its cusp has one large median denticle and on each side four smaller ones; the lateral tooth (1) has a rhombic shape with a taillike process on the distal side of the body and a long cusp with four smaller ones on the visible distal side of the reflected margin; the uncini have the family-character, the denticles of the outer ones are bifid and trifid.

1) Those from Stat. 98 probably having been washed down.

### Calpurnus Montfort.

1. *Calpurnus verrucosus* Linné. Pl. XV, fig. 10.

Linné. Syst. Nat. Ed. X, p. 726, N° 330.
Rumph. Amb. Rariteitkamer, p. 114, Pl. 38, fig. H.
Kiener. Coq. Viv. Vol. I, Ovula, p. 5, Pl. 2, fig. 3.
Reeve. Conch. Ic. Vol. XV, Ovulum, fig. 2.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ovula, p. 171, Pl. A, fig. 7; Pl. 44, fig. 6, 8.
Tryon. Man. of Conch. Vol. VII, p. 256, Pl. 5, fig. 56—58.

Stat. 131. Beo, Karakelang-islands. Reef. 6 Spec.
Stat. 261. Elat, West coast of Great-Kei-island. Reef. 1 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. Reef. 1 Spec.

According to Tryon the radula of this species is still unknown, and I am not aware that it has since been described. Its location amongst the *Amphiperasidae* has even been doubtful. In an old radula of this species from Amboina I see that by the characteristic comblike uncini the genus belongs without doubt to that family. The teeth of the central field are however sufficiently different from its allies to consider the genus *Calpurnus* as a valid one. The rhachidian tooth (R) has a broad body, with two wings near the base and a very large central cusp, with one or two small denticles at its base. The laterals (1) have a subquadrangular body and a very long archlike cusp, with a small denticle about halfway; these teeth are quite different from those of other species of this family figured by Troschel.

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## Fam. Strombidae.

### Strombus Linné.

1. *Strombus canarium* Linné.

Linné. Syst. Nat. Ed. X, p. 745, N° 438.
Rumph. Amb. Rariteitkamer, p. 110, Pl. 36, fig. N.
Kiener. Coq. Viv. Vol. III, Strombus, p. 33, Pl. 29, fig. 1.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 43, Pl. 7, fig. 4.
Reeve. Conch. Ic. Vol. VI, Strombus, fig. 46*a*.
Tryon. Man. of Conch. Vol. VII, p. 110, Pl. 2, fig. 18, 19?

Stat. 213. Saleyer. Reef. 1 Spec.

The specimen is not quite adult, the peristome is still rather thin; it is covered by a comparatively thick fibrous epidermis.

2. *Strombus isabella* Lamarck.

Lamarck. An. s. vert. Ed. II, Vol. IX, p. 700.
Kiener. Coq. Viv. Vol. III, Strombus, p. 32, Pl. 25, fig. 2.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 41, Pl. 7, fig. 3.

REEVE. Conch. Ic. Vol. VI, Strombus, fig. 51.
TRYON. Man. of Conch. Vol. VII, p. 110, Pl. 2, fig. 20 (*canarium* var.).

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 2 Spec.

The specimen from Stat. 4 is very young, those from Stat. 33 are fine and adult, the largest one has a shell of 70 Mill. in length, both are covered on the back of last whorl by a fibrous epidermis, resembling that of the former species, but not so thick. TRYON has united the two species and TROSCHEL has found no differences in the radulae. In accordance with the majority of authors, I have kept them separated.

3. *Strombus (Euprotomus) lentiginosus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 743, N° 427.
RUMPH. Amb. Rariteitkamer, p. 111, Pl. 37, fig. Q.
KIENER. Coq. Viv. Vol. III, Strombus, p. 25, Pl. 18, fig. 1.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 21, Pl. 4, fig. 1, 2; Pl. 5, fig. 2, 3.
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 31.
TRYON. Man. of Conch. Vol. VII, p. 110, Pl. 3, fig. 23, 24.

Stat. 142. Laiwui, coast of Obi Major. 23 M. Mud. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. 22 M. Mud. 1 Spec.
Stat. 225. South of Lucipara-island. Reef. 3 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. 46 M. Stony bottom. 3 Spec.
Stat. 250. Kilsuin, West coast of Kur-island. 20—45 M. Coral and Lithothamnion. 1 Spec.
Stat. 252. West side of Taam-island. Reef. 1 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. Reef. 1 Spec.

Though none of the specimens contains the soft parts, they seem to have lived at the collecting-grounds, as many of them have at least traces of a rather thin epidermis.

4. *Strombus (Euprotomus) papilio* Chemnitz.

CHEMNITZ. Conch. Cab. Vol. X, Pl. 158, fig. 1510, 1511.
KIENER. Coq. Viv. Vol. III, Strombus, p. 26, Pl. 17, fig. 1.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 56, Pl. 11, fig. 3, 4.
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 29.
TRYON. Man. of Conch. Vol. VII, p. 110, Pl. 3, fig. 25.

Stat. 96. South east side of Pearl-bank, Sulu-archipelago. 15 M. Lithothamnion-bottom. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 282. Between Nusa Besi and N.E. point of Timor. 27—54 M. Sand, coral and Lithothamnion. 1 Spec.
Stat. 299. Buka-bay, South coast of Rotti-island. Up to 36 M. Mud, coral and Lithothamnion. 1 Spec.

The specimens from the three last-mentioned localities are very young, the smallest from Stat. 282 has only a length of $9^1/_2$ Mill. and should nearly be doubtful, but the sculpture, consisting of 3 nearly regular rows of varices, with about 8 curved ribs in the interstices, crossed by regular spirals is characteristic, also small brown spots near the sutures, behind the varices, agree with those of larger specimens, the nucleus is smooth. The specimen from Stat. 96 is quite adult.

5. *Strombus (Eupotromus) laciniatus* Chemnitz.

CHEMNITZ. Conch. Cab. Vol. X, p. 223, Pl. 158, fig. 1506, 1507.
KIENER. Coq. Viv. Vol. III, Strombus, p. 8, Pl. 11 (*cristatus*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 15, Pl. 11, fig. 1, 2.
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 25.
TRYON. Man. of Conch. Vol. VII, p. 110, Pl. 3, fig. 26.

Stat. 37. Sailus Ketjil, Paternoster-islands. Up to 18 M. Coral and coralsand. 1 Spec.

One young specimen of 31 Mill., perfectly agrees with the upper whorls of my adult specimens from Amboina.

6. *Strombus (Monodactylus) auris Dianae* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 743, N$^0$ 429.
RUMPH. Amb. Rariteitkamer, p. 111, Pl. 37, fig. R.
KIENER. Coq. Viv. Vol. III, Strombus, p. 22, Pl. 16, fig. 1.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 25, Pl. 6, fig. 1, 2.
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 36.
TRYON. Man. of Conch. Vol. VII, p. 113, Pl. 4, fig. 37.

Stat. 58. Seba, Savu. Reef. 1 Spec.
Stat. 89. Pulu Kaniungan Ketjil. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. 46 M. Stony bottom. 3 Spec.

7. *Strombus (Monodactylus) guttatus* Martini.

MARTINI. Conch. Cab. Vol. III, p. 136, Pl. 84, fig. 840.
KIENER. Coq. Viv. Vol. III, Strombus, p. 24, Pl. 15, fig. 1.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 26, Pl. 6, fig. 3.
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 33.
TRYON. Man. of Conch. Vol. VII, p. 113 (*auris Dianae* pars).

Stat. 58. Seba, Savu. Reef. 1 Spec.
Stat. 172. Island Gisser. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. 46 M. Stony bottom. 3 Spec.

TRYON has united this species to *S. auris Dianae* Lin. In dozens of specimens I found no real doubtful ones.

8. *Strombus (Gallinula) vittatus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 745, N$^0$ 439.
RUMPH. Amb. Rariteitkamer, p. 110, Pl. 36, fig. O.
KIENER. Coq. Viv. Vol. III, Strombus, p. 40, Pl. 23, fig. 1, 1*a*,
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 44, Pl. 7, fig. 5, 6, 8, 9.
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 44.
TRYON. Man. of Conch. Vol. VII, p. 114, Pl. 4, fig. 41, 42.

Stat. 1. 1400 M. from "Zwaantjes-droogte", Madura-strait. 37 M. Grey mud with small broken shells. 1 Spec.
Stat. 71. Makassar and surroundings. 27—32 M. Mud, sand with mud, coral. 2 Spec.
Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 1 Spec.

The last mentioned specimen is an adult but dead shell, corresponding to fig. 1*a* of

KIENER (l. c.), that from Stat. 1 is young and resembles the upper whorls of KIENER's fig. 1; the specimens from Stat. 71 belong perhaps to var. *turritus* Lam. but are too young to be quite certain about them; by comparing fig. O of RUMPH, with the figure of CHEMNITZ, quoted by LAMARCK for his var. *turritus*, I think v. MARTENS was wrong in identifying that fig. O with the var. *turritus*. In the type the back view of the last whorl occupies at least half the length of the shell, in the variety it is shorter, in CHEMNITZ's figure it scarcely surpasses a third part of the length. TRYON's fig. 43 may still belong to the type of the species.

9. *Strombus (Gallinula) labiosus* Gray.

GRAY. Wood. Ind. Test. Suppl. Pl. 4, fig. 3.
KIENER. Coq. Viv. Vol. III, Strombus, p. 54, Pl. 22, fig. 2.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 70, Pl. 20, fig. 1.
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 50.
TRYON. Man. of Conch. Vol. VII, p. 116, Pl. 5, fig. 51.

Stat. ? 1 Spec.
Stat. 289. 9° 0'.3 S., 126° 24'.5 E. Timor Sea. 112 M. Mud, sand and shells. 1 Spec.

Both specimens are empty shells, they are very small, being only 29 and $32^1/_2$ Mill. in length. They differ from the descriptions by the columella; which is wrinkled in its whole length instead of being only wrinkled above and below, but as these wrinkles are less conspicuous in the specimen from unknown locality, I suppose this character may have but little value. By these wrinkles the shells are allied to *S. deformis* (GRAY in GRIFFITH's Animal Kingdom, Vol. XII, pl. 25, fig. 5), but the shape of the apertural wing agrees with that of *S. labiosus*; the Siboga-specimens are in some degree intermediate between the two species.

10. *Strombus (Gallinula) pulchellus* Reeve.

REEVE. Conch. Ic. Vol. VI, Strombus, fig. 52.
TRYON. Man. of Conch. Vol. VII, p. 119, Pl. 6, fig. 70 (*dentatus* var.).

Stat. 133. Lirung, Salibabu-island. Reef. 1 Spec.
Stat. 279. Ruma-Kuda-bay, Roma-island. Reef. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The specimen from Stat. 133 agrees very well with REEVE's figure but it is smaller and less intensely coloured, that from Stat. 279 is still smaller and has a basal row of obtuse tubercles, the third from Stat. 313 is young, this latter specimen has some resemblance with the species of the *dentatus*-group, but I cannot conceive how TRYON considers this species to be a variety of *S. dentatus*, as it is very conspicuously winged; the observation of REEVE, that many specimens of *S. labiosus* are nearly allied, fully agrees with the specimen from Stat. 133. Unfortunately none of the specimens contained the soft parts.

11. *Strombus (Gallinula) epidromis* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 745, N° 437.
RUMPH. Amb. Rariteitkamer, p. 110, Pl. 36, fig. M.

KIENER. Coq. Viv. Vol. III, Strombus, p. 48, Pl. 26, fig. 1.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 45, Pl. 7, fig. 7.
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 54.
TRYON. Man. of Conch. Vol. VII, p. 116, Pl. 5, fig. 55.

Stat. 104. Sulu-harbour, Sulu-island. 14 M. Sand. 1 Spec.
*Amboina. 1 Spec.

12. *Strombus (Gallinula) succinctus* Linné.

LINNÉ. Syst. Nat. Ed. XII, p. 1212, N$^0$ 509.

Stat. 296. Noimini, South coast of Timor. 9—36 M. Sandy mud. 1 Spec.

A very young specimen, long 22 Mill., containing the soft parts, sufficiently agrees with the upper whorls of my fullgrown specimens to identify it. I have quoted no figures, as such don't exist of this young state, as far as I am aware.

13. *Strombus (Gallinula) variabilis* Swainson.

SWAINSON. Zool. Illustr. Ser. I, Vol. I, Pl. 10.
KIENER. Coq. Viv. Vol. III, Strombus, p. 49, Pl. 21, fig. 2.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 37, Pl. 4*a*, fig. 1, 2.
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 21.
TRYON. Man. of Conch. Vol. VII, p. 117, Pl. 6, fig. 59.

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

This specimen belongs to var. B of KÜSTER (l. c.), without brown spot on the columella.

14. *Strombus (Gallinula) columba* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 702.
KIENER. Coq. Viv. Vol. III, Strombus, p. 51, Pl. 25, fig. 1.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 67, Pl. 15, fig. 1, 2, 3.
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 26.
TRYON. Man. of Conch. Vol. VII, p. 115, Pl. 5, fig. 49, 50.

Stat. 1. 1400 M. distant from reef "Zwaantjes-droogte", Madura-strait, 37 M. Grey mud with small broken shells. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 2 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay, Sumbawa. Up to 36 M. Sand, coral and mud. 29 Spec.

Twelve of the specimens from Stat. 313 are adult, they agree sufficiently with the figures of REEVE and TRYON (the latter is a copy of REEVE's fig.) but they are considerably smaller, the smallest one having only a length of 29 Mill., the largest of 41 Mill. The brown spot on the columella is wanting, and the columellar ridges are only conspicuous on one specimen, in the other specimens these ridges are only present on both extremities, the intermediate part of the columella being smooth. The margin of the right lip is in a few specimens produced a little above the penultimate whorl. According to a communication of Mr. E. A. SMITH, the British Museum possesses similar specimens, which are however larger.

15. *Strombus (Canarium) muricatus* Martini.

MARTINI. Conch. Cab. Ed. I, Vol. III, p. 85, 98, 165, Pl. 78, fig. 803—6.
KIENER. Coq. Viv. Vol. III, Strombus, p. 60, Pl. 15, fig. 2; Pl. 30, fig. 2, 3 (*urceus*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 51, Pl. 9, fig. 4—6 (*urceus*).
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 24 (*urceus*).
TRYON. Man. of Conch. Vol. VII, p. 118, Pl. 6, fig. 65—67 (*urceus*).
BOOG WATSON. Challenger Reports, Gastropoda, p. 417.

Stat. 16. Bay of Kankamaraän, South coast of Kangeang. Shore. 1 Spec.
Stat. 47. Bay of Bima, near South fort. Shore. 5 Spec.
Stat. 71. Pulu Barang. Shore. 1 Spec.
Stat. 169. Atjatuning, West coast of N. Guinea. Reef. 1 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.
Stat. ? 3 Spec.
*Java (N. A. M.) 8 Spec.

The specimens are very variable in shape, size and colour, also in colour of the columella which is as in the quoted figures blackish, more or less deep orange or white. In employing the name *muricatus* for this species, I have followed BOOG WATSON (l. c.) though it is generally known as *S. urceus*. But the reasons of that author for changing the name, seem to be too convincing, to neglect them. HEDLEY (Proc. Linn. Soc. New South Wales, 1904, p. 188) applies the name *S. ustulatus* Schumacher for this species; this name is however of more recent date.

16. *Strombus (Canarium) dentatus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 745.
RUMPH. Amb. Rariteitkamer, p. 111, Pl. 37, fig. F.
KIENER. Coq. Viv. Vol. III, Strombus, p. 62, Pl. 31, fig. 1 (*plicatus*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 59, Pl. 13, fig. 3, 4 (*plicatus*).
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 17.
TRYON. Man. of Conch. Vol. VII, p. 118, Pl. 7, fig. 67—70.

Stat. 193. Sanana-bay, East coast of Sula Besi. 22 M. Mud. 6 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.
Stat. 279. Roma. Reef. 1 Spec.
*Amboina (N. A. M.). 1 Spec.

var. *Rüppellii* Reeve.

REEVE. Conch. Ic. Vol. VI, Strombus, fig. 13.
TRYON. Man. of Conch. Vol. VII, Pl. 6, fig. 62 (*erythrinus*).

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 37. Sailus Ketjil, Paternoster-islands. Up to 18 M. Coral and coralsand. 1 Spec.
Stat. 299. Buka-bay, South coast of Rotti-island. Up to 36 M. Mud, coral and Lithothamnion. 2 Spec.
Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.
Stat. 322. South of Tandjong Lajar, Bawean-island. 32 M. Coral. 1 Spec.

Some of the specimens agree very will with REEVE's fig. (l. c.), those from Stat. 299 and 315 are more allied to the type of the species, but differ sufficiently to identify them with the variety.

17. *Strombus (Canarium) urceus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 145, N⁰ 440.
RUMPH. Amb. Rariteitkamer, p. 111, Pl. 37, fig. W.
KIENER. Coq. Viv. Vol. III, Strombus, p. 63, Pl. 32, fig. 1 (*floridus*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 53, Pl. 9, fig. 8—10 (*floridus*).
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 11*a* (*floridus*).
TRYON. Man. of Conch. Vol. VII, p. 119, Pl. 7, fig. 73—76 (*floridus*).
BOOG WATSON. Challenger Reports, Gastropoda, p. 417 (note).

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 58. Seba, Savu. Reef. 2 Spec.
Stat. 81. Pulu Sebangkatan, Borneo-bank. Reef. 1 Spec.
Stat. 174. Waru-bay, North coast of Ceram. 18 M. Mud. 2 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.
Stat. 250. Kilsuin, West coast of Kur-island. 20—45 M. Coral and Lithothamnion. 1 Spec.
Stat. 279. Roma. Reef. 1 Spec.

This is the species better known as *S. floridus* Lam., which after HANLEY (cfr. BOOG WATSON l. c.) ought to bear the Linnean name of *S. urceus*. LINNÉ himself quotes fig. T of RUMPH, which is certainly n o t LAMARCK's *floridus*, but probably *S. dentatus* Lin. if not *S. muricatus* Martini; as the fig. G of plate 32 of GUALTIERI (Index testarum conchyliorum), likewise quoted by LINNÉ, is however quite another species of *Strombus*, the original specimen is the only safe source, and so this shell must bear the name *urceus*, how inconvenient it may be to alter long familiar names.

18. *Strombus (Canarium) gibberulus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 744, N⁰ 433.
RUMPH. Amb. Rariteitkamer, p. 111, Pl. 37, fig. V.
KIENER. Coq. Viv. Vol. III, Strombus, p. 37, Pl. 28, fig. 1.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 48, Pl. 8, fig. 3—9, 11.
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 15.
TRYON. Man. of Conch. Vol. VII, p. 121, Pl. 8, fig. 85.

Stat. 37. Sailus Ketjil, Paternoster-islands. 27 M. Coral and coralsand. 1 Spec.
Stat. 60. Haingsisi, Samau-island. Reef. 1 Spec.
Stat. 225. South of Lucipara-island. Reef. 2 Spec.
Stat. 279. Roma. Reef. 1 Spec.
*Java (N. A. M.). 2 Spec.

Very variable in size, shape and colour of the outer and inner surface of the shell.

19. *Strombus (Canarium) bulbulus* Sowerby.

SOWERBY. Proc. Zool. Soc. Lond. 1842, p. 144.
REEVE. Conch. Ic. Vol. VI, Strombus, fig. 8.
TRYON. Man. of Conch. Vol. VII, p. 121, Pl. 8, fig. 86.

Stat. 40. Pulu Kawassang, Paternoster-islands. 12 M. Coralreef. 1 Spec.

Though the only specimen is still rather young and approaches by its shape *S. terebellatus* the columella is brown and agrees with that of the rare *S. bulbulus*, also with the figures of

Duclos (Illustrations Conch. Strombus, Pl. 7, fig. 7, 8; Pl. 15, fig. 9, 10) and with subfossil specimens from Celebes, which are rather variable in shape. The characteristic wrinkles of the aperture are still wanting.

20. *Strombus (Canarium) samar* Chemnitz.

Chemnitz. Conch. Cab. Vol. X, p. 221, Pl. 157, fig. 1501, 02.
Rumph. Amb. Rariteitkamer, p. 112, Pl. 37, fig. Y.
Kiener. Coq. Viv. Vol. III, Strombus, p. 64, Pl. 26, fig. 2 (*tridentatus*).
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombus, p. 54, Pl. 9, fig. 12—15 (*tridentatus*).
Reeve. Conch. Ic. Vol. VI, Strombus, fig. 53 (*samarensis*).
Tryon. Man. of Conch. Vol. VII, p. 121, Pl. 8, fig. 88.

Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 299. Buka-Bay, South coast of Rotti-island. 36 M. Mud coral and Lithothamnion. 1 Spec.

21. *Strombus (Conomurex) luhuanus* Linné.

Linné. Syst. Nat. Ed. X, p. 744, N$^0$ 432.
Rumph. Amb. Rariteitkamer, p. 111, Pl. 37, Fig. S.
Kiener. Coq. Viv. Vol. III, Strombus, p. 39, Pl. 27, fig. 1.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Strombus, p. 46, Pl. 8, fig. 1, 2, 10.
Reeve. Conch. Ic. Vol. VII, Strombus, fig. 19.
Tryon. Man. of Conch. Vol. VII, p. 122, Pl. 8, fig. 91, 92.

Stat. 37. Sailus Ketjil, Paternoster-island. Up to 18 M. Coral and coralsand. 1 Spec.
Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Shore. 6 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom, sand and coral. 2 Spec.
Stat. 225. South of Lucipara-island. Reef. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand and coral. 2 Spec.
Stat. 250. Kilsuin, West coast of Kur-island. 20—45 M. Coral and Lithothamnion. 1 Spec.
Stat. 299. Buka-Bay, South coast of Rotti-island. Up to 36 M. Mud, coral and Lithothamnion. 1 Spec.
Stat. 313. Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.
*Amboina (N. A. M.). 1 Spec.

## Pterocera Lamarck.

1. *Pterocera lambis* Linné.

Linné. Syst. Nat. Ed. X, p. 743, N$^0$ 425.
Rumph. Amb. Rariteitkamer, p. 110, Pl. 35, fig. E, F; Pl. 36, fig. G.
Kiener. Coq. Viv. Vol. III, Pterocera, p. 7, Pl. 3; Pl. 9, fig. 2; Pl. 4, fig. 1, 11.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombea, p. 82, Pl. 10, fig. 7; Pl. 16, fig. 3, 4; Pl. 17, fig. 3; Pl. 18, fig. 5, 6.
Reeve. Conch. Ic. Vol. VI, Pterocera, fig. 8.
Tryon. Man. of Conch. Vol. VII, p. 124, Pl. 8, fig. 1—3.

Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 1 Spec.
Stat. 16. Bay of Kankamaräan, South coast of Kangeang. Shore. 1 Spec.
Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Shore. 2 Spec.
Stat. 142. Laiwui, North coast of Obi Major. 23 M. Mud. 3 Spec.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.
Stat. 252. West side of Taam-island. Reef. 1 Spec.
Stat. 279. Ruma-Kuda-bay, Roma-island. Reef. 1 Spec.
*Amboina (N. A. M.). 1 Spec.

This is the most common species of the genus.

2. *Pterocera chiragra* Linné.

Linné. Syst. Nat. Ed. X, p. 742, N° 423.
Rumph. Amb. Rariteitkamer, p. 109, Pl. 35, fig. A—D.
Kiener. Coq. Viv. Vol. III, Pterocera, p. 5, Pl. 5, Pl. 10, fig. 2.
Reeve. Conch. Ic. Vol. VI, Pterocera, fig. 2.
Tryon. Man. of Conch. Vol. VII, p. 126.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.

## Rostellaria Lamarck.

1. *Rostellaria Powisii* Petit. Pl. XVI, fig. 2.

Petit. Magazin de Zoologie, 1842, Pl. 53.
Kiener. Coq. Viv. Vol. III, Rostellaria, p. 6, Pl. 2, fig. 2.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombea, p. 97, Pl. 25, fig. 2, 3.
Reeve. Conch. Ic. Vol. VI, Rostellaria, fig. 4.
Tryon. Man. of Conch. Vol. VII, p. 128, Pl. 11, fig. 22.

Stat. 306. 8° 27′ S., 122° 54′.5 E. Savu Sea. 247 M. Sandy mud. 7 Spec.
Stat. 312. Saleh-bay, North coast of Sumbawa. 274 M. Fine, sandy mud. 2 Spec.

One of the specimens from Stat. 312 is a very fine large shell, agreeing with Reeve's figure by the prominence of the third liration on the last whorl, which is also broader; the seventh liration is also more conspicuous, though less than the third one; this specimen contains the soft parts, the other specimen shows the same peculiarities, but is a dead shell and slightly broken. The specimens from Stat. 306 are small and young.

var. *abyssicola* n. var. Pl. XI, fig. 5.

Stat. 139. 0° 11′ S., 127° 25′ E. Molucca-Passage. 397 M. Mud, stones and coral. 4 Spec.

Shell small, whitish, thinner than the type, the upper whorls nearly smooth, with only one conspicuous groove, bordering a narrow spiral cord, just below the suture; this is continuous untill the aperture, the upper part of last whorl, below that groove, smooth on the ventral side, angular on the place where in the type runs the third of the lirae, on the back with indistinct spirals, beginning with a row of punctures, more conspicuous behind the apertural margin, base of last whorl with conspicuous spiral cords, separated by punctured grooves; denticles and other particularities of the aperture, as in the type.

Length of largest specimen 39 Mill. of smallest 33 Mill., it may have been in both specimens a little more, since the canal seems to be slightly broken.

This fine shell has much puzzled me; after comparing it carefully with typical specimens, I can see nothing in it but a dwarfed form with obsolete sculpture, probably owing its peculiar character to the considerably greater depth. A young specimen is scarcely different from young ones from Stat. 306. Unfortunately the shells contained nothing but some mud.

The radula of a small specimen from Stat. 306 agrees in many respects with those of other Strombidae, it is short, with about 35 rows of teeth, its colour is yellowish. The rhachidian tooth (R) has a body which is broad in front and suddenly narrower about halfway; its cusp has 11 denticles, of which the central one is the largest; the lateral tooth (1) has a transversely much elongated body and about 9 denticles on its reflected margin. The uncini (U) are long, slender, much curved, with a few small denticles on the sides. It was a male specimen with a long slender penis, ending in a thickened, spear-shaped point.

## **Rimella** Agassiz.

1. *Rimella cancellata* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, (*Strombus*) p. 710.
KIENER. Coq. Viv. Vol. III, Rostellaria, p. 9, Pl. 3, fig. 3.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Strombea, p. 73, Pl. 20, fig. 5.
REEVE. Conch. Ic. Vol. VI, Rostellaria, fig. 10.
TRYON. Man. of Conch. Vol. VII, p. 129, Pl. 10, fig. 18, 20.

Stat. 58. Seba, Savu. Up to 27 M. 2 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 5 Spec.
Stat. 231. Amboina. 54 M. Coralsand. 1 Spec.
Stat. ? 2 Spec.

forma *minor*.

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 9 Spec.

Shell only from 19 to nearly 23 Mill. in length, more conspicuously banded.

I have maintained *Rimella* as a genus, though it has been considered by FISCHER and TRYON as a subgenus of *Rostellaria*, but the operculum is serrate as in *Strombus*, instead of being smooth-margined as in *Rostellaria*.

The forma *minor* distinguishes itself by its smallness and the vivid painting, the specimen from Amboina which has a length of 26 Mill. and which is also more gayly coloured may be considered as a link between the type and forma *minor*.

2. *Rimella crispata* Sowerby.

SOWERBY. Thes. Conch. Part I, p. 26, Pl. 8, fig 62, 63.
KIENER. Coq. Viv. Vol. III, Rostellaria, p. 10, Pl. 4, fig. 2.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Strombea, p. 76, Pl. 25, fig. 4, 5.
REEVE. Conch. Ic. Vol. VI, Rostellaria, fig. 8.
TRYON. Man. of Conch. Vol. VII, p. 129, Pl. 10, fig. 19.

Stat. 174. Waru-bay, North coast of Ceram. Reef. 1 Spec.
Stat. 260. North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 261. Elat, West coast of Great-Kei-island. Reef. 9 Spec.

Varying much in size; of the 8 probably adult specimens from Stat. 261, with well-developed outer lip and a varix on the opposite side of the body-whorl, the largest specimen has a length of 22 Mill. the smallest of only 10 Mill.; the full-grown intermediate specimens have the length of 12, $15^{3}/_{4}$, $17^{1}/_{2}$, 18 and $20^{1}/_{2}$ Mill.

3. *Rimella Tyleri* H. & A. Adams. Pl. XV, fig. 5; Pl. XVI, fig. 1.

H. & A. Adams. Proc. Zool. Soc. Lond. 1863, p. 428.
Tryon. Man. of Conch. Vol. VII, p. 119.

Stat. 4. Djankar (Java). 9 M. Coarse sand. 10 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 3 Spec.
Stat. 213. Saleyer. Up to 36 M. Coralreefs, mud and mud with sand. 1 Spec.
Stat. ? 10 Spec.

This species is also very variable in size, the smallest specimen from Stat. 4 being only 14 Mill. in length, the largest from the same locality 23 Mill., this latter being only surpassed by a specimen from Stat. ? measuring 25 Mill. The operculum is serrate, as in *R. cancellata*; as far as I know this species has not been figured before.

The radula which, as far as I am aware, was not yet known is very small, its length is about $^{3}/_{4}$, its breadth $^{1}/_{8}$ of a Mill., with about 35 transverse rows. The rhachidian tooth (R) is broadly rounded in front, contracted behind, with a cusp bearing one moderately large central denticle and about 6 smaller ones on each side, the laterals (1) are strongly transversely elongate with a simple reflected margin, terminating in a sharp point towards the centre of the radula, the uncini (U) are long and slender, strongly curved, with a few indistinct denticles. The general appearance of the radula is much the same as that of the preceding genus, as far as may be judged from one radula of each, the chief difference being the smooth margin of the laterals, which are provided with many denticles in *Rostellaria*.

## Terebellum Klein.

1. *Terebellum terebellum* Linné.

Linné. Syst. Nat. Ed. X, p. 718, N$^{0}$ 284.
Rumph. Amb. Rariteitkamer, p. 101, Pl. 30, fig. S.
Kiener. Coq. Viv. Vol. I, Terebellum, p. 2, Pl. 1, fig. 1 (*subulatum*).
Reeve. Conch. Ic. Vol. XVI, Terebellum, fig. 1 (*punctatum*).
Tryon. Man. of Conch. Vol. VII, p. 131, Pl. 11, fig. 27—30 (*subulatum*).

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 37. Sailus Ketjil, Paternoster-islands. Reef. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 4 Spec.
Stat. 64. Kambaragi-bay, Tanah-Djampeah. 32 M. Coral, coralsand. 1 Spec.
Stat. 71. Makassar and surroundings. 27—32 M. Mud, sand with mud, coral. 2 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.
Stat. 299. Buka-bay, Rotti-island. Up to 36 M. Mud, coral and Lithothamnion. 2 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand coral and mud. 7 Spec.

Very variable in colour-pattern, the majority of the specimens agrees with KIENER's fig. 1 and 1*b* or is intermediate, that from Stat. 64, with his fig. 1*c*.

Prof. BERGH has (Zool. Jahrb. Bd 8, Abth. für Anat. p. 372, Pl. 22, fig. 11—14) described and figured the radula of this species.

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Fam. CERITHIIDAE.

**Cerithium** Adanson.

1. *Cerithium nodulosum* Bruguière.

BRUGUIÈRE. Encycl. Meth. Pl. 442, fig. 3.
RUMPH. Amb. Rariteitkamer, p. 101, Pl. 30, fig. O.
KIENER. Coq. Viv. Vol. IV, Cerithium, p. 4, Pl. 2, fig. 1.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 3.
TRYON. Man. of Conch. Vol. IX, p. 122, Pl. 19, fig. 13, 14; Pl. 20, fig. 15.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 76, Pl. 15, fig. 1.

Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Shore. 1 Spec.
Stat. 89. Pulu Kaniungan Ketjil. Reef. 1 Spec.
Stat. 225. South of Lucipara-island. Reef. 1 Spec.
Stat. 313. Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

Three of the specimens of this common species are young, dead shells. That from Stat. 313 is a fine specimen, probably containing the soft parts, which are too much withdrawn to be seen.

2. *Cerithium columna* Sowerby.

SOWERBY. Genera of shells. Vol. II, Pl. 204, fig. 7.
KIENER. Coq. Viv. Vol. IV, Cerithium, p. 7, Pl. 3, fig. 1 (*echinatum*).
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 2.
TRYON. Man. of Conch. Vol. IX, p. 123, Pl. 20, fig. 17, 18.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 85, Pl. 16, fig. 7, 8.

Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Shore. 1 Spec.
Stat. 81. Pulu Sebangkatan, Borneo-bank. Reef. 1 Spec.
Stat. 99. North-Ubian. 16—23 M. Lithothamnion-bottom. 1 Spec.
Stat. 225. South of Lucipara-island. Reef. 1 Spec.
Stat. 240. Banda. Reef. 1 Spec.
Stat. 260. North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 279. Rumah-Kuda-bay, Roma-island. Reef. 1 Spec.

The specimen from Stat. 78 is very small, reaching only a length of 17 Mill.

3. *Cerithium citrinum* Sowerby.

SOWERBY. Thes. Conch. Vol. II, p. 855, Pl. 179, fig. 66.
KIENER. Coq. Viv. Vol. IV, Cerithium, p. 10, Pl. 4, fig. 1 (*columna*).
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 1.
TRYON. Man. of Conch. Vol. IX, p. 123, Pl. 20, fig. 21.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 110, Pl. 22, fig. 2, 3.

Stat. 40. Pulu Kawassang, Paternoster-islands. Coralreef. 2 Spec.
Stat. 99. North-Ubian. 16—23 M. Lithothamnion-bottom. 1 Spec.
Stat. 123. North-bay, Biaru-island. 36—27 M. Stone and Lithothamnion-bottom. 1 Spec.
Stat. 144. North of Salomakiëe-island. 45 M. Coralbottom and Lithothamnion. 1 Spec.
Stat. 172. Gisser. Reef. 1 Spec.
Stat. 206. Buton-strait. 51 M. Fine, green mud. 1 Spec.
Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

Varying considerably in size; of the two specimens from Stat. 40, the length of the largest one is 35, that of the smallest only 24 Mill., though both have the lip expanded and thickened and may be considered to be adult.

4. *Cerithium echinatum* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 291.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 10.
TRYON. Man. of Conch. Vol. IX, p. 123, Pl. 20, fig. 25.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 101, Pl. 20, fig. 5, 6.

Stat. 225. South point of South Lucipara-island. Reef. 1 Spec.

The only specimen, which is broken at the aperture, belongs to the short, thick form, represented by the quoted figures.

5. *Cerithium novaehollandiae* Adams.

A. ADAMS. Thes. Conch. Vol. II, p. 864, Pl. 178, fig. 54.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 30.
TRYON. Man. of Conch. Vol. IX, p. 124, Pl. 21, fig. 34.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 123, Pl. 23, fig. 8.

Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 2 Spec.

Of the two specimens, one is characteristic, being white with a broad brown band at the base of each whorl, it seems to differ from the figures by one or two of the spirals being slightly prominent, in the other specimen I see a few brown spots on the base of the whorls, but no distinct band, and two spirals so much developed as to form one row of small tubercles on the upper whorls, about halfway, and a second row, nearly concealed by the suture. Both specimens are young. If adult they might be described as a variety, but now I prefer to make only mention of these characters, as constituting individual aberrations of the type.

6. *Cerithium coralium* Kiener.

KIENER. Coq. Viv. Vol. IV, Cerithium, p. 32, Pl. 8, fig. 3.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 29 (*corallinum*).
TRYON. Man. of Conch. Vol. IX, p. 125, Pl. 21, fig. 36 (*corallinum*).
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 218, Pl. 39, fig. 1, 2.

Stat. 71. Makassar. Up to 32 M. Mud, sand with mud, coral. 5 Spec.
Stat. 86. Dongala, Palos-bay. Reef. 1 Spec.

The name of this species has been written in very different manners; according to KIENER, it has been named, but I think not described by DUFRESNE as *C. coralium*, on KIENER's

plate the name is *coraillium*, v. MARTENS (Journ. Lin. Soc. Vol. 21, p. 190) has recorded it from the Mergui-archipelago as *C. corallium* Defrance, REEVE and TRYON write *Corallinum*. I have applied the original name but with KIENER's name as the author. The species varies considerably in size.

7. *Cerithium rostratum* Sowerby.

SOWERBY. Thes. conch. Vol. II, p. 861, Pl. 180, fig. 104.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 95.
TRYON. Man. of Conch. Vol. IX, p. 130, Pl. 23, fig. 90, 91.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 211, Pl. 37, fig. 8, 9.

Stat. 37. Sailus Ketjil, Paternoster-islands. Up to 18 M. Coral and coralsand. 5 Spec.
Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.
Stat. 206. Buton-strait. 51 M. Fine, green mud. 2 Spec.

The quoted figures give but a faint idea of the delicacy and beauty of this species, which is of a transparant white, with very fine brown dots and streaks, the canal stained with blackish brown.

8. *Cerithium balteatum* Philippi.

PHILIPPI. Zeitschr. f. Mal. 1848, p. 22.
—— Abbildungen neuer Conch. III, p. 16, Cerithium, Pl. I, fig. 10.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. *72a*.
TRYON. Man. of Conch. Vol. IX, p. 131, Pl. 23, fig. 2, 3.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 189, Pl. 34, fig. 16, 17.

Stat. 299. Buka-bay, South coast of Rotti-island. 36 M. Mud, coral and Lithothamnion. 3 Spec.

The only adult specimen agrees very well with REEVE's fig. *72a*.

9. *Cerithium serratum* Wood.

WOOD. Index testac. Pl. 28, fig. 158.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 75 (*rubus*).
TRYON. Man. of Conch. Vol. IX, p. 131, Pl. 23, fig. 4—9 (*rubus*).
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 213, Pl. 38, fig. 1.

Stat. 81. Pulu Sebangkatan, Borneo-bank. 34 M. Coral-bottom and Lithothamnion. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 2 Spec.
Stat. 299. Buka-bay, South coast of Rotti-island. 36 M. Mud, coral and Lithothamnion. 1 Spec.
Stat. 313. Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. About 120 Spec.
Stat. ? 4 Spec.

Very variable in colour, yellowish, brown, whitish, often more or less banded and variegated with darker colours, however shape, size and sculpture agree with such specimens as may be considered to belong to the type. *Cerithium rubus* of MARTYN, seems to be quite another species; according to PILSBRY (Proc. Acad. Nat. Sc. Philadelphia, 1901, p. 392) it should be the same as *C. echinatum* of LAMARCK; if this be right; the species recorded above sub N° 4, ought to bear that name.

var. *sordidula* Gould.

GOULD. Otia Conch. p. 61.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 87.
TRYON. l. c. p. 132, Pl. 23, fig. 15.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 215, Pl. 38, fig. 8.

Stat. 285. South coast of Timor. 34 M. On the limit between mud and coral. 1 Spec.

Only differing from the type by its sharper sculpture and slightly broader shape.

10. *Cerithium granosum* Kiener.

KIENER. Coq. Viv. Vol. IV, Cerithium, p. 57, Pl. 4, fig. 3.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 73.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 221, Pl. 39, fig. 12, 13.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 1 Spec.
Stat. 86. Dongala, Palos-bay, Celebes. Reef. 1 Spec.
Stat. 204. Between islands Wowoni and Buton. 75—94 M. Sand with dead shells. 1 Spec.

TRYON considers this species to be a synonym of the preceding one; it differs sufficiently in shape and sculpture, to be separated as a good species.

11. *Cerithium tenellum* Sowerby.

SOWERBY. Thes. Conch. Vol. II, p. 857, Pl. 188, fig. 88—90.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 71.
TRYON. Man. of Conch. Vol. IX, p. 132, Pl. 23, fig. 10, 11.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, p. 213, Pl. 38, fig. 2, 3.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 2 Spec.
Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Shore. 10 Spec.

The specimens from Stat. 78, one of which is of a rosy hue, are smaller than REEVE's figure, they have only a length of about 15 Mill. instead of 22, one of the specimens from Stat. 43 on the contrary, reaches 22 Mill.

12. *Cerithium morum* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 302.
KIENER. Coq. Viv. Vol. IV, Cerithium, p. 52, Pl. 15, fig. 1.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 42.
TRYON. Man. of Conch. Vol. IX, p. 133, Pl. 24, fig. 32, 33.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 80, Pl. 15, fig. 6, 7.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 1 Spec.
Stat. 37. Sailus Ketjil, Paternoster-islands. 27 M. Coral and coralsand. 1 Spec.
Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 2 Spec.
Stat. 47. Bay of Bima, near South fort. Shore. 1 Spec.
Stat. 174. Waru-bay, North coast of Ceram. Reef. 1 Spec.
*Island Enkhuizen near Batavia. (N. A. M.). 1 Spec.

var. *monilifera* Kiener.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 1 Spec.

This specimen agrees with the original figure of KIENER, less with those of REEVE, TRYON and KOBELT.

13. *Cerithium tuberculatum* Linné.

LINNÉ. Syst. Nat. Ed. XII, p. 1213, N$^0$ 514.
SMITH. Zool. Coll. of H. M. S. "Alert", p. 63—65.
TRYON. Man. of Conch. Vol. IX, p. 133, Pl. 24, fig. 25—27.

Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 1 Spec.
Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 2 Spec.
Stat. 34. Labuan Pandan, Lombok. Coralreef. 1 Spec.
Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. Reef. 1 Spec.
Stat. 131. Beo, Karakelang-islands. Reef. 2 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.
Stat. 225. South point of South Lucipara-island. Reef. 2 Spec.
Stat. 277. Dammer-island. Reef. 5 Spec.
Stat. 279. Ruma-Kuda-bay, Roma-island. Reef. 2 Spec.
Stat. 296. Noimini, South coast of Timor. Reef. 1 Spec.

var. *variegatum* Quoy and Gaimard.

QUOY & GAIMARD. Voy. de l'Astrolabe. Vol. III, p. 129, Pl. 55, fig. 17.
REEVE. Conch. Ic. Vol. XV, fig. 41.

Stat. 86. Dongala, Palos-bay, Celebes. Reef. 5 Spec.
Stat. 142. Laiwui, North coast of Obi Major. Reef. 1 Spec.

As to the identification of *C. tuberculatum* and its variety *variegatum*, I have followed the views of E. A. SMITH (l. c.) the specimens agree with such, formerly named by that author, in my private collection.

14. *Cerithium maculosum* Mighels.

MIGHELS. Proc. Bost. Soc. Nat. Hist. Vol. II, p. 22.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 97.
TRYON. Man. of Conch. Vol. IX, p. 137, Pl. 26, fig. 75.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 199, Pl. 35, fig. 18, 19.

Stat. 225. South point of South Lucipara-island. Reef. 1 Spec.

The only specimen is not yet adult.

15. *Cerithium clavis* (Sowerby) Reeve.

(SOWERBY) REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 94.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 227, Pl. 40, fig. 5.

Stat. 95. 5°43'.5 N., 119°40' E. Sulu Sea. 522 M. Stony bottom. 39 Spec.

Specimens agreeing sufficiently with the figure and description of REEVE, to be identified

with this species, described without locality in the quoted works. The brown band is only faintly visible in one specimen. Unfortunately the specimens are dead, partly worn shells, so it cannot be made out if they have really lived at the great depth of 522 M.

16. *Cerithium aduncum* Gould.

GOULD. Proc. Boston Soc. Nat. Hist. Vol. III, 1849, p. 119.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 56 (*dorsuosum*) fig. 57 (*aduncum*).
TRYON. Man. of Conch. Vol. IX, p. 139, Pl. 26, fig. 96, 97.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 103, Pl. 20, fig. 9, 10.

Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 11 Spec.

According to REEVE, the only difference between *C. aduncum* and *dorsuosum* should be, that in the former the outer lip is ridged, being smooth in *dorsuosum*. Now, as the very old specimens from the above locality have the outer lip smooth, the younger ones have it ridged, with every grade between them, I think they ought to be united, as for the first time has been done by TRYON, afterwards by KOBELT on TRYON's authority; the "Siboga"-specimens are less humped, than the figure of *aduncum*, the colour also agrees with REEVE's *dorsuosum*, but in size and in shape of upper whorls, they come nearer to his *aduncum*.

17. *Cerithium zebrum* Kiener.

KIENER. Coq. Viv. Vol. IV, Cerithium, p. 71, Pl. 25, fig. 4.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 136?
TRYON. Man. of Conch. Vol. IX, p. 138, Pl. 26, fig. 78—82.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 220, Pl. 39, fig. 7—10.

Stat. 215. North point of Kabia-island. Reef. 1 Spec.

REEVE's locality "Gallapagos-Islands" makes it doubtful, if he had in view the true *C. zebrum*.

18. *Cerithium pauxillum* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1854, p. 86.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 144.
TRYON. Man. of Conch. Vol. IX, p. 141, Pl. 34, fig. 95.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 228, Pl. 40, fig. 8.

Stat. 144. Laiwui, North coast of Obi Major. 23 M. Coral-bottom and Lithothamnion. 3 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 19 Spec.

Though the specimens have a fourth row of nodules on each whorl, in contradiction to the original description of ADAMS, who says "triseriatim granosis", they belong no doubt to the species under consideration, as they have been compared with the types in the British Museum by Mr. E. A. SMITH; the shell has a tendency to be banded with fulvous above the suture, the fourth series of nodules is smaller and so may have been overlooked, moreover I see a few intermediate lirae especially on the last whorl. There is a single varix on the left side of the bodywhorl and another bordering the aperture externally; the whole shell is covered with fine growth-striae, only visible under a strong lens.

19. *Cerithium (Colina) Koperbergi* Schepman.

SCHEPMAN. Posttertiäre Moll. von Celebes. Samml. Geol. Mus. Leiden, Ser. I, Bd 8, p. 188, Pl. 12, fig. 1.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 3 Spec.

I cannot separate this form from the subfossil ones from Celebes. The sculpture of these latter seems to be sharper, but this may depend on its fossil state or on local influence. The recent specimens are dark yellowish-brown, mottled with white, mixed with irregular patches of crimson on the last whorl; the aperture especially the columella and canal is stained by the same colour.

20. *Cerithium (Liocerithium) piperitum* Sowerby.

SOWERBY. Thes. Conch. Vol. II, p. 867, Pl. 181, fig. 136, 137.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 81.
TRYON. Man. of Conch. Vol. IX, p. 144, Pl. 27, fig. 31, 32.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 117, Pl. 22, fig. 12.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral 1 Spec.
Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Shore. 9 Spec.
Stat. 240. Banda. Reef. 1 Spec.
Stat. 213. South-island, near Saleyer. Reef. 1 Spec.
Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 1 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. Reef. 1 Spec.

I have omitted the quotation of KIENER's work, as his figure represents a shell from Senegal described as *C. punctatum* by BRUGUIÈRE. REEVE and TRYON think they are synonyms, KOBELT that they are different.

21. *Cerithium (Liocerithium) lacteum* Kiener.

KIENER. Coq. Viv. Vol. IV, Cerithium, p. 58, Pl. 7, fig. 3.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 85.
TRYON Man. of Conch. Vol. IX, p. 143, Pl. 27, fig. 29, 30, 33.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 130, Pl. 24, fig. 12, 13.

Stat. 225. South point of Lucipara-island. Reef. 2 Spec.
Stat. 279. Roma. Reef. 1 Spec.

22. *Cerithium Tydemani* n. sp. Pl. XI, fig. 6.

Stat. 313. Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.

Shell elongate, yellowish-brown, with many convex whorls. Nucleus wanting, remaining whorls 12, the uppermost closed by a calcareous septum, upper ones regularly convex, lower ones with a broad excavation below the suture, which is not deep, slightly compressed at the sides. Of the two specimens (which are unfortunately not adult) the largest has 4 varices on the lower whorls. Sculpture consisting of 5 spiral cords, of which one borders the base of each whorl, the uppermost bordering the subsutural excavation. The whole shell, as well the spiral

cords as the interstices and the excavation, is covered with regular spiral rows of small granules, giving to many parts a cancellated appearance, one could as well say that in the upper whorls, the shell is cancellated by granular spirals and concentric riblike striae; moreover the shell has on the lower whorls, especially of the smaller specimen, indistinct ribs; last whorl carinated by the strong peripheral cord, its basal part with two stronger and a great number of finer spiral cords or lirae, crossed by very fine growth-striae. Aperture subquadrangular, its characters cannot be made out, by the juvenile state; the right margin, which will most probably be varicose in the adult shell, is still thin, columellar margin curved, terminating in a short canal, directed towards the left and slightly upturned.

This new species is very peculiar by its shape and sculpture. I know no species to which it may be allied and think, if it were adult, it would prove to constitute a new section.

### **Clava** Martyn.

1. *Clava (Pseudovertagus) aluco* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 755, N$^0$ 497.
RUMPH. Amb. Rariteitkamer, p. 100, Pl. 30, fig. N.
KIENER. Coq. Viv. Vol. IV, Cerithium, p. 17, Pl. 6, fig. 1.
REEVE. Conch. Ic. Vol. XV, Vertagus, fig. 3.
TRYON. Man. of Conch. Vol. IX, p. 145, Pl. 27, fig. 38.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Cerithium, p. 16, Pl. 3, fig. 4—6.

Stat. 34. Labuan Pandan, Lombok. Coralreef. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.
Stat. 250. Kilsuin, West coast of Kur-island. 20—45 M. Coral and Lithothamnion. 4 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.
*Java. (N. A. M.). 1 Spec.

2. *Clava sinensis* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3542.
KIENER. Coq. Viv. Vol. IV, Cerithium, p. 15, Pl. 5, fig. 1 (*obeliscus*).
REEVE. Conch Ic. Vol. XV, Vertagus, fig. 7 (*obeliscus*).
TRYON. Man. of Conch. Vol. IX, p. 146, Pl. 27, fig. 39 (*obeliscus*).
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 20, Pl. 4, fig. 2—8.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 81. Pulu Sebangkatan, Borneo-bank. Reef. 1 Spec.
Stat. 174. Waru-bay, North coast of Ceram. Reef. 1 Spec.
Stat. 225. South point of South Lucipara-island. Reef. 4 Spec.

The specimens from the last named locality, nearly reach the recorded maximum of length of 2,5 inches.

3. *Clava articulata* Adams & Reeve.

ADAMS & REEVE. Voy. Samarang, p. 43, Pl. 10, fig. 14.
REEVE. Conch. Ic. Vol. XV, Vertagus, fig. 16.
TRYON. Man. of Conch. Vol. IX, p. 146, Pl. 28, fig. 5 (*gemmatum* pars).
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 33, Pl. 7, fig. 8, 9.

Stat. 66. Bank between islands of Bahuluwang and Tambolungan, South of Saleyer. 8 M. Dead coral, Halimeda, Lithothamnion. 4 Spec.
Stat. 90. 1° 17'.5 N., 118° 53' E. Celebes Sea. 281 M. Coral, sand and stones. 1 Spec.
Stat. 99. North-Ubian. 16—23 M. Lithothamnion-bottom. 6 Spec.

Varying much in sculpture, one of the young specimens from Stat. 66 has the nodules at the suture much more developed than those from Stat. 99.

4. *Clava tenuisculpta* Sowerby.

SOWERBY. REEVE. Conch. Ic. Vol. XV, Vertagus, fig. 22.
TRYON. Man. of Conch. Vol. IX, p. 146, Pl. 27, fig. 43 (*gemmatus* pars).

Stat. 104. Sulu-harbour, Sulu-island. 14 M. Sand. 1 Spec.

Probably only a variety of the preceding species; the only specimen is young and consequently the identification rather uncertain; in accordance with the figure of REEVE, the spire is more acuminate than in *C. articulata*.

5. *Clava Kochi* Philippi.

PHILIPPI. Abb. u. Beschr. Vol. III, p. 14, Cerithium, Pl. I, fig. 3.
REEVE. Conch. Ic. Vol. XV, Vertagus, fig. 26.
TRYON. Man. of Conch. Vol. IX, p. 147, Pl. 28, fig. 48, 49.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 105, Pl. 21, fig. 3, 4?

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.
Stat. 58. Seba, Savu. Reef. 1 Spec.
Stat. 71. Makassar. 27—36 M. Mud, sand with mud, coral. 2 Spec.
Stat. 133. Lirung, Salibabu-island. 36 M. Mud and hard sand. 6 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 6 Spec.

KOBELT, whose figures are not very characteristic, especially not in the shape of the canal, says: "Aus dem indopacifischen Ocean ist sie meines Wissens noch nicht bekannt geworden, wenn nicht etwa *Cerithium graniferum* Pease hierher gehört". DUNKER (Index Molluscorum maris Japonici, p. 108) has recorded the species from Japan, and has observed specimens with brown lines in the interstices of the lirae, more rarely whitish ones, agreeing with PHILIPPI's figures. Previous to this record is that of LISCHKE (Japanische Meeres-Conchylien, Band I p. 72, Band III p. 49); v. MARTENS (Moll. Mauritius p. 280) quoted by KOBELT, prefixes an "I" to the species, meaning that it lives also in the Indian Ocean (Nicobaren, Ceylon, Malaischer Archipel). In the majority of the specimens, the interstices of the lirae have distinct brown lines, where they are wanting, this seems to be caused by fading, in dead specimens. The canal, if intact, is by no means so straight as in KOBELT's figures, so I have left the species in the genus *Clava* = *Vertagus*.

6. *Clava Pfefferi* Dunker.

DUNKER. Index Moll. Maris Japonici, p. 108, Pl. 4, fig. 12—14.
TRYON. Man. of Conch. Vol. IX, p. 147, Pl. 28, fig. 56 (*turritum*).
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 145, Pl. 27, fig. 12, 13.

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.
Statl 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 2 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 3 Spec.
Stat. 64. Kambaragi-bay, Tanah Djampeah. 32 M. Coral, coralsand. 2 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 12 Spec
Stat. 142. Laiwui, North coast of Obi major. 23 M. Very fine, hard sand, mud. 21 Spec.
Stat. 205. Lohio-bay, Buton-strait. 22 M. Sandy mud. 105 Spec.
Stat. 231. Amboina. 54 M. Coral. 1 Spec.
Stat. 260. North point of Nuhu Jaan, Kei-islands. 90 M. Sand. coral and shells. 3 Spec.
Stat. 261. Elat, West coast of Great-Kei-island. 27 M. Mud. 2 Spec.
Stat. 279. Rumah-Kuda-bay, Roma-island. 18—35 M. 1 Spec.
Stat. 296. Noimini, South coast of Timor. 9—36 M. Sandy mud. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 40 Spec.

This species has been ascribed both to *Vertagus (= Clava)* and *Cerithium*. DUNKER himself and TRYON, describe it as *Vertagus*, KOBELT and WATSON (Challenger-Gastropoda) as *Cerithium*. PILSBRY, who in his "Catalogue of the marine Mollusks of Japan, 1895, p. 56, enumerates it as *Clava Pfefferi*, says in 1901 (Proc. Acad. Nat. Sciences, Philadelphia, p. 393) "The *Vertagus Pfefferi* of DUNKER is not a *Vertagus* or *Clava*, but a true *Cerithium*". The "Siboga"-specimens agree in every particular with the original figure and description of DUNKER, but if one looks into the aperture in an oblique direction, one sees a more or less distinct fold on the columellar side, which is very strong in young and broken specimens, if one looks however at the adult shell en face, the fold is not visible at all. The species varies not only in colour, at has been stated by DUNKER, but also considerably in size.

7. *Clava aspera* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 756, N$^0$ 500.
RUMPH. Amb. Rariteitkamer, p. 100, N$^0$ 3.
REEVE. Conch. Ic. Vol. XV, Vertagus, fig. 21.
TRYON. Man. of Conch. Vol. IX, p. 148, Pl. 28, fig. 62.

Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom, sand and coral. 1 Spec.
Stat. ? 1 Spec.

8. *Clava martiniana* Pfeiffer.

PFEIFFER. Krit. Reg. Martini-Chemn. Conch. Cab. p. 1.
RUMPH. Amb. Rariteitkamer, p. 100, Pl. 30, fig. K.
KIENER. Coq. Viv. Vol. IV, Cerithium, p. 22, Pl. 18, fig. 1 (*procerum*).
REEVE. Conch. Ic. Vol. XV, Vertagus, fig. 9 (*fasciatus*).
TRYON. Man. of Conch. Vol. IX, p. 149, Pl. 28, fig. 64 (*fasciatus*).
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 26, Pl. 6, fig. 1—8.

Stat. 37. Sailus Ketjil, Paternoster-islands. Up to 18 M. Coral and coralsand. 1 Spec.
Stat. 172. Island of Gisser. Reef. 1 Spec.

Though *C. fasciata* Brug. may be only a variety, I have followed the newest monograph of KOBELT, in keeping the two species separated, else the name of BRUGUIÈRE should have

priority. It appears that the figure of RUMPH belongs to this species, rather than to *C. vertagus* as v. MARTENS has suggested, the latter being a much more ventricose species.

9. *Clava Pharos* Hinds.

HINDS. Voy. Sulphur, p. 27, Pl. 11, fig. 3, 4.
REEVE. Conch. Ic. Vol. XV, Vertagus, fig. 13.
TRYON. Man. of Conch. Vol. IX, p. 149, Pl. 29, fig. 68.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 10, Pl. 2, fig. 3, 4.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion-bank. 7 Spec.
Stat. 282. Between Nusa Besi and N.E. point of Timor. 27—54 M. Sand, coral and Lithothamnion. 1 Spec.

This species is still nearly allied to the preceding one, the specimen from Stat. 282, though not so sharply sculptured as the other ones, has however the same narrow shape. I have not quoted KIENER's *C. subulatum* Lam., as the figure differs too much from those of the other authors.

10. *Clava vertagus* Linné.

LINNÉ. Syst. Nat. Ed. XII, p. 1225.
KIENER. Coq. Viv. Vol. IV, Cerithium, p. 20, Pl. 18, fig. 2.
REEVE. Conch. Ic. Vol. XV, Vertagus, fig. 19 (*vulgaris*).
TRYON. Man. of Conch. Vol. IX, p. 149, Pl. 29, fig. 69.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 23, Pl. 5, fig. 1—6.

Stat. 16. Bay of Kankamaraän, South of Kangeang. 22 M. Mud. 2 Spec.
Stat. 71. Makassar. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 78. Lumu-Lumu-shoal. Borneo-bank. Reef. 1 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom, sand and coral. 4 Spec.
Stat. 172. Island of Gisser. Reef. 2 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 3 Spec.
Stat. 225. South point of South Lucipara-island. Reef. 1 Spec.
Stat. 231. Amboina. Reef. 1 Spec.
*Amboina (N. A. M.). 2 Spec.

The specimen from Makassar is banded, but less strong than *C. taeniata* Q. & G.

## **Bittium** Gray.

1. *Bittium glariosum* Gould.

GOULD. Proc. Bost. Soc. 1861, p. 387.
REEVE. Conch. Ic. Vol. XV, Cerithium, fig. 131.
TRYON. Man. of Conch. Vol. IX, p. 155, Pl. 30, fig. 19 (*glareosum*).
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Cerithium, p. 249, Pl. 43, fig. 8.

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.

I owe the identification of this very small specimen, which is moreover a dead shell, to the kindness of Mr. E. A. SMITH, who compared it with the British Museum specimens.

## Potamides Brongniart.

1. *Potamides (Tympanotonos) fluviatilis* Potiez & Michaud.

Potiez & Michaud. Cat. Moll. Douai, p. 363, Pl. 31, fig. 19, 20.
Kiener. Coq. Viv. Vol. IV, Cerithium, p. 92, Pl. 29, fig. 3.
Reeve. Conch. Ic. Vol. XV, Tympanotonos, fig. 9.
Tryon. Man. of Conch. Vol. IX, p. 159, Pl. 31, fig. 38.

Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 1 Spec.
Stat. 33. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. Shore. 1 Spec.

2. *Potamides (Terebralia) palustris* Linné.

Linné. Syst. Nat. Ed. XII, p. 1213.
Rumph. Amb. Rariteitkamer, p. 101, Pl. 30, fig. Q.
Kiener. Coq. Viv. Vol. IV, Cerithium, p. 81, Pl. 1.
Reeve. Conch. Ic. Vol. XV, Pyrazus, fig. 2.
Tryon. Man. of Conch. Vol. IX, p. 160, Pl. 32, fig. 41, 42.
Kobelt. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 35, Pl. 8, fig. 1, 2; Pl. 9, fig. 1, 2.

Stat. 86. Dongala, Palos-bay, Celebes. Shore. 1 Spec.
Stat. 213. Saleyer. Reef. 1 Spec.

3. *Potamides (Terebralia) sulcatus* Born.

Born. Testacea Mus. Caes. Vindob. p. 320.
Rumph. Amb. Rariteitkamer, p. 101, Pl. 30, fig. T.
Kiener. Coq. Viv. Vol. IV, p. 89, Pl. 27, fig. 1, 2.
Reeve. Conch. Ic. Vol. XV, Pyrazus, fig. 1.
Tryon. Man. of Conch. Vol. IX, p. 160, Pl. 32, fig. 46, 47.
Kobelt. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 40, Pl. 8, fig. 7, 8.

Stat. 40. Pulu Kawassang, Paternoster-islands. Coralreef. 1 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Shore. 4 Spec.
Stat. 71. Makassar. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 86. Dongala, Palos-bay, Celebes. Shore. 4 Spec.
Stat. 131. Beo, Karakelang-islands. Reef. 5 Spec.

Varying much in shape and size, the smallest fullgrown specimen from Stat. 86, reaching only a length of about 30 Mill., the largest from Stat. 50 of 47 Mill., but I have seen larger ones.

## Cerithidea Swainson.

1. *Cerithidea ornata* A. Adams.

A. Adams. Thes. Conch. Cerithium, p. 887, Pl. 186, fig. 277, 278.
Reeve. Conch. Ic. Vol. XV, Cerithidea, fig. 22.
Tryon. Man. of Conch. Vol. IX, p. 162, Pl. 33, fig. 64.
Kobelt. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Cerithium, p. 51, Pl. 11, fig. 1, 2.

Stat. 200. Bara-bay, North coast of Buru-island. Up to 54 M. Mud and stone. 7 Spec.

Rather variable in the bands, which are more or less broad and distinct, this latter difference may however be due to the state of freshness of the shell, though they are all living specimens.

### Cerithiopsis Forbes & Hanley.

1. *Cerithiopsis (Seila) Versluysi* n. sp. Pl. XI, fig. 7.

Stat. 231. Amboina. Reef. 1 Spec.

Shell small, turriculate, brown, with about 10 postnuclear, flat whorls, the nuclear ones wanting; each whorl with three spiral ribs, of which the upper and basal ones are thick, the median one is narrower, the interstices are wider than the ribs, distinctly radiately striate; on the last whorl the number of spiral ribs amounts to five, two ribs appearing below the peripheral one; moreover two small intermediate striae appear towards the aperture. Suture not conspicuous. Aperture subquadrangular, right margin straight, simple, but not sharp; columellar margin smooth, with a rather thick layer of enamel, upper corner of the aperture with an entering rib, formed by a continuation of the most basal of the lirae, canal short, rather wide, directed towards the left.

Alt. $5^1/_2$, lat. 2 Mill.

This small species may be allied to *C. dextroversa* Ads., by its sculpture consisting of 3 carinae of which the central one is smaller, but that species is whitish, much larger and has a larger number of whorls, for even if complete, the new species scarcely could have more than 12 whorls.

### Argyropeza Melvill & Standen.

1. *Argyropeza divina* Melvill & Standen. Pl. XV, fig. 11.

Melvill & Standen. Proc. Zool. Soc. Lond. 1901, p. 372, Pl. 21, fig. 3.

Stat. 139. 0° 11′ S., 127° 25′ E. Molucca-Passage. 397 M. Mud, stones and coral. 1 Spec.
Stat. 312. Saleh-bay, North coast of Sumbawa. 274 M. Fine, sandy mud. 7 Spec.

Part of the specimens is slightly larger than the type described by Melvill and Standen, moreover they are more or less variegated with brown. The operculum is rounded-oval, with many whorls, I think about 8, of which the outer ones are broad, the central ones so small that I cannot count them with accuracy.

The radula is exceedingly small and of difficult observation, its breadth being scarcely $^1/_6$ of a Mill., its length could not be ascertained, as it fell to pieces, but it may not have exceeded $^1/_2$ Mill. The rhachidian tooth (R) has a broad, subquadrangular shape, with curved sides, the cusp has one larger denticle and three smaller ones on each side, it seems that along the basal margin, runs a narrow very indistinct zone, but by the excessive thinness, I am not quite certain about this, the laterals (1) have an elongately subrhombical shape, the cusp has one

large denticle and one proximal, 5 distal, smaller ones, the uncini (U) are very slender, rather long and considerably curved, one of the two rows seems to be very indistinctly denticulate.

As to the systematic position of this species, I think it advisable to keep it as the type of a separate genus, the rhachidian and lateral teeth resemble in several particulars the figures of radulae of the genera *Cerithiopsis* and *Litiopa* by TROSCHEL (Gebiss der Schnecken Pl. XI, fig. 12 and 14) but the uncini seem to be more slender and are distinctly denticulate in these genera, whereas in *Argyropeza*, the denticles, if they exist at all, are very faint. The operculum of *Cerithiopsis* has been described by FISCHER (Manuel de Conchyliologie) as suboval, paucispiral, with sublateral nucleus, placed at the left side of the aperture, that of *Litiopa* as oval, very thin, paucispiral, with subterminal nucleus. As stated above the operculum in *Argyropeza* is suboval, multispiral and has a subcentral nucleus. From *Bittium*, of which I find no description of the radula, it should be distinguished by its many-whorled operculum.

2. *Argyropeza Melvilli* n. sp. Pl. XII, fig. 1.

Stat. 102. 6°4′.1 N., 120°44′ E. Sulu Sea. 535 M. Fine, yellow sand. 1 Spec.

Shell small, pyramidal, white, whorls $11^1/_2$, of which nearly 2 form the nucleus, the first is rather bulbous and smooth, the second radiately ribbed one is also swollen; remaining whorls regularly increasing, slightly contracted above and below, nearly straight towards the middle, with two spiral rows of pointed nodules, connected by slight spirals and oblique radiating ribs, moreover the shell has a thin spiral, just above the linear suture. The rest of the surface is smooth and shining, with a slight nacreous lustre and with numerous fine growth-striae. Body-whorl conspicuously keeled below the periphery and with a second keel at some distance on the smooth base. Aperture subrhombic, outer margin thin, angulate at the end of the lower row of nodules, columellar margin rounded, slightly curved, ending in a point, where it joins the basal margin.

Alt. $10^1/_2$, lat. $3^1/_4$; apert. alt. $1^3/_4$, lat. $1^1/_2$ Mill.

This species has much puzzled me, more than once I had compared it with the preceding one, but the very different nucleus and the aperture abstained me from considering it as belonging to the genus *Argyropeza*, unfortunately the operculum and the soft parts are wanting; at last I asked the assistance of Mr. J. COSMO MELVILL, who suggested it would be a Cerithopsoid shell, probably belonging to the genus *Argyropeza*. As to the different nucleus, I found it had much resemblance with that of *Cerithium obeliscoides* Jeffr. (Proc. Zool. Soc. Lond. 1885, p. 55, Pl. VI, fig. 4). JEFFREYSS (l. c. p. 59) divided the species of *Cerithiopsis* in two sections: "A. typical with acuminated apex and B. *Eumeta* Mörch, Apex blunt". If the species now under consideration, really belongs to the genus *Argyropeza*, this genus could be divided in the same manner. I have named it after one of the authors of the genus. The new species is larger, more elongate, with less convex whorls than *A. divina*, it has a nearly smooth base and quite different nucleus.

## Fam. Planaxidae.

### **Planaxis** Lamarck.

1. *Planaxis sulcatus* Born.

Born. Mus. Vindobon. p. 250, Pl. 10, fig. 5, 6.
Reeve. Conch. Ic. Vol. XX, Planaxis, fig. 4.
Tryon. Man. of Conch. Vol. IX, p. 276, Pl. 52, fig. 22, 23.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 18 Spec.
Stat. 47. Bay of Bima, near South fort. Shore. 3 Spec.
*Java (N. A. M.). 27 Spec.

A very variable species; I cannot detect however specimens agreeing sufficiently with the species or varieties *breviculus* Desh. or *Savignyi* Desh.

2. *Planaxis nigra* Quoy & Gaimard.

Quoy & Gaimard. Voy. Astrol. Zool. II, p. 491, Pl. 33, fig. 22—24.
Reeve. Conch. Ic. Vol. XX, Planaxis, fig. 13.
Tryon. Man. of Conch. Vol. IX, p. 278, Pl. 52, fig. 37.

Stat. 165 North-east side of Daram-island, East coast of Misool. Reef. 24 Spec.

The specimens are young; from the West Indian *P. nucleus* Wood they differ by their convex whorls, from *P. abbreviata* Pease, in being larger. Tryon (l. c.) has for that species given a length of $7^1/_2$ Mill., whereas the juvenile specimens under consideration, reach a length of 10 Mill. The specimens have a white nucleus, one groove below the suture and a few ones near the base.

### **Quoyia** Deshayes.

1. *Quoyia decollata* Quoy & Gaimard. Pl. XVI, fig. 4.

Quoy & Gaimard. Voy. Astrol. Zool. II, p. 489, Pl. 33, fig. 33, 34.
Reeve. Conch. Ic. Vol. XX, Planaxis, fig. 37.
Tryon. Man. of Conch. Vol. IX, p. 280, Pl. 53, fig. 71.

Stat. 131. Beo, Karakelang-islands. Reef. 32 Spec.

Operculum paucispiral, with a subterminal nucleus on the left or columellar side.

The radula is rather long, about $7^1/_2$ Mill. in length; its rhachidian tooth (R) has a broad body, with elongated wings on each side and an appendix at the basal margin, cusp broad, rounded, two denticles on the body or basal part; lateral tooth (1) with apparently subtriangular body, with a long tail at the distal side, a large reflected cusp and 3 smaller denticles on its distal side, probably also a few on the proximal side, which are however covered by the central cusp; uncini (U), with an elongate body, the inner one has a cusp with 6 denticles, moreover if placed in a favorable position, I see a very thin part along the body, ending in a

denticle which is separated from the body, by a distinct sinus; the outer one has 8 or 9 denticles and a very thin plate of an elongate, triangular shape. If the teeth lay in their natural position the uncini cover each other in such a degree, that their arrangement is scarcely clear, so it might be that I have erred in the appreciation of what is the inner and outer of the uncini. This description agrees only in part with that of the radula of *Planaxis* by TROSCHEL (Gebiss der Schnecken, Vol. I, p. 150, 151, Pl. 12, fig. 7—9), for though the rhachidian tooth is really of the same construction, the uncini are quite different by the lateral appendices. In this respect they better agree with *Cerithidea* and *Pyrazus* (l. c. Pl. 12, fig. 4 and 5), I have consequently not followed the example of FISCHER (Manuel de Conchyliologie) TRYON (l. c) and others, who consider *Quoyia* as a subgenus of *Planaxis*; I think that its conchological character of the plicated columella, together with the differences in the radulae, will be fully sufficient, to keep them separate.

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Fam. MODULIDAE.

**Modulus** Gray.

1. *Modulus tectum* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3569.
TRYON. Man. of Conch. Vol. IX, p. 260, Pl. 48, fig. 87.

Stat. 37. Sailus-Ketjil, Paternoster-islands. 27 M. Coral and coralsand. 1 Spec.
Stat. ? 1 Spec.

Both specimens are still young, that from Stat. 37 is moreover broken, but sufficiently characteristic.

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Fam. TRIPHORIDAE.

**Triphora** Blainville.

1. *Triphora (Euthymia) princeps* Sowerby.

SOWERBY. Proc. Mal. Soc. Lond. VI, 1904, p. 174 (fig.).

Stat. 60. Haingsisi, Samau-island. Reef. 1 Spec.

The only specimen, though young (it has only a length of 24 Mill. instead of 57) is still a giant in the genus. SOWERBY (l. c.) did not know the habitat of this species, described after a specimen, from the collection of the late admiral KEPPEL.

2. *Triphora (Euthymia) sculpta* Hinds.

HINDS. Ann. and Mag. of Nat. Hist. Vol. XI, 1843, p. 17.
TRYON. Man. of Conch. Vol. IX, p. 178, Pl. 37, fig. 82, 83.

Stat. 250. Kilsuin, West coast of Kur-island. 27 M. Coral and Lithothamnion. 1 Spec.

The specimen is very large, nearly 17 Mill., the length stated by HINDS (l. c.) being only $4^1/_2$ line; it perfectly agrees with a younger specimen, received from SOWERBY, with the locality "New-Caledonia". At the base of each whorl is still a small liration, articulated with white and brown; the whole shell between the lirae is covered with microscopical spiral lines.

3. *Triphora (Euthymia) elegans* Hinds.

HINDS. Ann. and Mag. of Nat. Hist. Vol. XI, 1843, p. 18.
TRYON. Man. of Conch. Vol. IX, p. 189, Pl. 39, fig. 62.

Stat. 125. Sawan, Siau-island. Reef. 1 Spec.

The specimen, which is not complete, perfectly agrees in sculpture and colour with a specimen received from SOWERBY from New-Caledonia, under the name of *picturata* Sow. (Proc. Mal. Soc. Lond. IV, p. 210, Pl. 22, fig. 11), which according to SMITH (Fauna of the Maldive and Laccadive Archipelago, Vol. II, part 2, p. 613) is a synonym of *T. elegans*. The species, like the preceding one has very fine spiral striae between the lirae.

4. *Triphora (Euthymia) Versluysi* n. sp. Pl. XI, fig. 8.

Stat. 310. 8° 30′ S., 119° 7′.5 E. Flores Sea. 73 M. Sand with few pieces of dead coral. 1 Spec.

Shell rather large, conical, with slightly convex sides. Nuclear whorls wanting, remaining ones about 12, concave, with two spirals, consisting of beads, the basal one the strongest, between these two, but nearer to the upper one, runs a third spiral, which is much narrower and not beaded but waved, at the shallow suture a trace of a fourth spiral makes its appearance, it is quite visible on the last whorl, where it proves to be less strong than the basal one of former whorls, and to be less conspicuously beaded, it is accompanied by a fifth spiral, placed at a small distance; moreover the whorls are sculptured by perpendicular grooves and flat ribs, connecting the beads of the upper and lower rows of beads, and finally the whole shell with exception of the beads, is covered with microscopical spirals and radiating striae, which fill also the space between the 5th liration and the canal, the base is also plicated by a few radiating folds; the beads of the upper row on each whorl are constantly yellowish, those of the basal row alternately (but not regularly) white and yellowish-brown, with occasionally brown spots between them, the colour of the rest of the shell is of an ashy violet. Aperture subquadrate, columellar margin thickened, with two small callosities, of which the lower one borders the short canal, which is a little curved backwards.

Long. (incl. canal) 13, lat. $3^1/_2$ Mill.

The specimen is slightly bleached by time, perhaps by the action of spirits. I know no species to which it is really allied, but it has a superficial resemblance with *T. malvacea* Jouss. belonging however to another section of the genus.

5. *Triphora (Euthymia) Schmidti* n. sp. Pl. XI, fig. 9.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.

Shell narrowly conical, with nearly straight sides, but slightly acuminate. Nuclear whorls

wanting, remaining whorls 14, convex, each with 4 spirals, of which the uppermost is placed at a small distance from the suture, the third is the most prominent and the fourth borders the lower suture, these spirals are not really beaded, but waved by the radiating grooves and flat ribs covering the shell; on the second and third spiral however, they have more or less the appearance of compressed beads, moreover I see very fine growth-striae. Colour whitish, with yellowish-brown upper spirals and small brown spots between the beads of the third spiral; last whorl carinated by the fourth spiral, its base radially striate, bearing a fifth spiral. Aperture subquadrangular, with a small notch in the upper corner, columellar lip callous below, canal short, directed towards the right and backwards.

Long. (incl. canal) $10^1/_2$, lat. $2^1/_4$ Mill.

6. *Triphora (Euthymia) pura* Smith.

SMITH. Fauna Maldive and Laccadive Archipelago. Vol. II, part. 2, p. 614, Pl. 35, fig. 20, 21.

Stat. 47. Bay of Bima, near South fort. 13—54 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 99. North-Ubian, Sulu-archipelago. 16—23 M. Lithothamnion-bottom. 1 Spec.

Larger than the type, which is only 14 Mill. in length, the Siboga-specimens are 17 and 18 Mill., the latter is adult, the former is still young.

7. *Triphora* sp.

Stat. 95. 5°43'.5 N., 119°40' E. Sulu Sea. 522 M. Stony bottom. 1 Spec.

The specimen is not adult, the nuclear whorls are wanting, it is worn and bleached. I cannot identify it with any of the known species, but it is in too bad condition for description and I only make mention of it, as it would be remarkable for the great depth at which it has been dredged. It is however not certain that it has really lived there.

8. *Triphora (Iniforis) fuscoapicata* Sowerby.

SOWERBY. Proc. Mal. Soc. Lond. VII, 1907, p. 301, Pl. 25, fig. 9.

Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. Reef. 1 Spec.

The specimen is slightly larger than the type, having a length of nearly $6^1/_2$ Mill. instead of $5^1/_2$, but a cotype received from the author, from the island Cebu, the original locality, is even 7 Mill. in length. Both specimens perfectly agree. The brown apical whorls are not smooth, as has been stated in the description (l. c.) but only the uppermost one may be called so, the other are bicarinate and are crossed by narrow riblike striae.

9. *Triphora (Iniforis) concors* Hinds.

HINDS. Ann. and Mag. Nat. Hist. Vol. XI, 1843, p. 17.
TRYON. Man of Conch. Vol. IX, p. 178, Pl. 37, fig. 80.

Stat. 47. Bay of Bima, near South fort. 14—31 and 55 M. Mud with patches of fine coral-sand. 3 Spec.

Stat. 90. 1° 17′.5 N., 118° 53′ E. Celebes Sea. 281 M. Coralsand and stones. 2 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom, sand and coral. 1 Spec.
Stat. 95. 5° 43′.5 N., 119° 40′ E. Sulu Sea. 522 M. Stony bottom. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.

Neither HINDS nor TRYON (l. c.) have made mention of the colour of this species; it is white with brown apical whorls, which are however wanting in most specimens; the somewhat rude figure of TRYON, which should be a copy of HINDS' figure in the Voy. "Sulphur" is brownish. Mr. E. A. SMITH has compared a specimen from Stat. 47, so I have no doubt about the identity. The specimens recorded from the great depths are dead shells. *T. fuscoapicata* Sow. much resembles the species under consideration, one might think it could be a dwarf-form.

10. *Triphora (Viriola) corrugata* Hinds.

HINDS. Ann. and Mag. Nat. Hist. Vol. XI, 1843, p. 18.
TRYON. Man. of Conch. Vol. IX, p. 189, Pl. 39, fig. 59.

Stat. 37. Sailus Ketjil, Paternoster-islands. Up to 18 M. Coral and coralsand. 1 Spec.
Stat. 60. Haingsisi, Samau-island. Reef. 2 Spec.
Stat. 66. Bank between islands of Bahuluwang and Tambolungan, South of Saleyer. 8 M. Dead coral, Halimeda and Lithothamnion. 2 Spec.
Stat. 71. Makassar. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 99. North-Ubian, Sulu-archipelago. 16—23 M. Lithothamnion-bottom. 1 Spec.
Stat. 114. Kwandang-bay-entrance, North Celebes. 75 M. Hard sand, very fine. 1 Spec.
Stat. 123. North-bay, Biaru-island. 27—36 M. Stone and Lithothamnion-bottom. 1 Spec.
Stat. 162. Between Loslos and Broken-island, West coast of Salawatti. 18 M. Coarse and fine sand, with clay and shells. 1 Spec.
Stat. 164. 1° 42′.5 S., 130° 47′.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 2 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 3 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. Lithothamnion. 2 Spec.
Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

Variable in size, in colour and in sharpness of the keels, however these latter differences may depend on the more or less fresh condition of the shells.

11. *Triphora (Viriola) cancellata* Hinds.

HINDS. Ann. and Mag. Nat. Hist. Vol. XI, 1843, p. 18.
TRYON. Man. of Conch. Vol. IX, p. 189, Pl. 39, fig. 64.

Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. Lithothamnion. 1 Spec.
Stat. 310. 8° 30′ S., 119° 7′.5 E. Flores Sea. 73 M. Sand with few pieces of dead coral. 1 Spec.

This fine species has been recorded by HINDS and TRYON only from the Strait of Malacca.

12. *Triphora (Mastonia) rubra* Hinds.

HINDS. Ann. and Mag. Nat. Hist. Vol. XI, 1843, p. 19.
TRYON. Man. of Conch. Vol. IX, p. 182, Pl. 38, fig. 13—16.
HEDLEY. Memoirs Austral. Mus. Vol. III, 1899, p. 441, fig. 29.

Stat. 47a. Entrance bay of Bima. 320 M. Fine sand. 2 Spec.
Stat. 213. South-island, near Saleyer. Reef. 1 Spec.

The specimen from Stat. 213 is rather young but agrees in sculpture with those from the bay of Bima.

13. *Triphora (Mastonia ?)* sp.

Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom sand and coral. 1 Spec.

The specimen is too young to ascertain even its subgeneric position.

14. *Triphora (Mastonia)* sp.

Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 1 Spec.

The specimen, though probably belonging to an undescribed species, is too young for description.

15. *Triphora (Inella)* sp.

Stat. 310. 8° 30′ S., 119° 7′.5 E. Flores Sea. 73 M. Sand with few pieces of dead coral. 1 Spec.

The only specimen is not quite adult and of irregular shape, by having been broken in its youth, so I don't venture to describe it as new.

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Fam. Trichotropidae.

**Trichotropis** Broderip & Sowerby.

1. *Trichotropis pulcherrima* Melvill & Standen.

Melvill & Standen. Ann. and Mag. Nat. Hist. Ser. 7, Vol. XII, p. 296, Pl. 20, fig. 15.

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The "Siboga"-specimen is smaller than the type, being only 16 Mill. in length, the type 24 Mill., the columellar margin is not so straight as is the quoted figure. I think these differences may depend on age or be individual. Shape and sculpture agree so well with the figure, that I dare not describe a new species on such slight differences. One should expect to find such arctic animals only at considerable depths, but the specimen from the Gulf of Oman has been found at 25 fathoms.

2. *Trichotropis orientalis* n. sp. Pl. XII, fig. 2.

Stat. 211. 5° 40′.7 S., 120° 45′.5 E. Banda Sea. 1158 M. Coarse grey mud. 1 Spec.

Shell turbinate, subdiscoid, with three strong keels or spiral ribs on the last whorl, yellowish-brown. Whorls 6, of which 4 nuclear ones are smooth, convex, and form a small cone;

subsequent whorls 2, the upper one with 2, the last with 3 strong keels; these whorls are flat between suture and upper keel, more or less concave between the lower keels and towards the base. Sculpture consisting of faint spiral grooves with rather large interstices, crossed by stronger growth-striae, the keels of last whorl are sculptured by strong spirals, the shell is covered by a thick, fibrous, yellowish-brown epidermis, with strong grooves, a few spinous fibres are visible here and there on the keels. Aperture subcircular, but with many angles, of which one at the upper part, three are formed by the keels, which are hollow interiorly, and one by a basal channel. Columellar margin concave, interrupted by the basal keel, tortuous below, terminating in a blunt point, joining the basal margin by the rounded basal channel, the columella is provided with a layer of enamel, nearly covering an umbilical slit..

Operculum oval, corneous, with some strong ribs at the distal margin.

Alt. $13^1/_2$, lat. 16; apert. alt. $9^1/_2$, lat. $7^1/_2$, with keels $8^1/_2$ Mill.

This is a very remarkable species; amongst those described it has only a remote resemblance with *T. bicarinata* Brod. and Sow. and *T. coronata* Gould, it differs however so much from both, that it is not necessary to insist upon the differences. The three very strong, hollow spiral keels are most characteristic. As to the generic position, the epidermis, shape of aperture with basal channel and the operculum have guided me. As I would not destroy the only specimen, I was unable to examine the radula.

Genus ?

1. sp. Pl. XII, fig. 3; Pl. XVI, fig. 3.

Stat. 211. 5°40'.7 S., 120°45'.5 E. Banda Sea. 1158 M. Coarse grey mud. 2 Spec.

I found in the same tube containing the former species, two smaller shells, both perhaps young, which I could not identify even generically; they have a superficial resemblance with the new *Trichotropis*, by being turbinate, with a fibrous epidermis and three keels, but these keels are much less sharp or conspicuous, and the chief difference consists in the aperture, which is slightly angular but not channelled below, the number of whorls is about 4 of which about $1^1/_2$ form a rather large nucleus, and $2^1/_2$ are depressed above, between the conspicuous suture and the uppermost keel.

Alt. $6^1/_4$, lat. $6^1/_2$; apert. alt. $3^1/_2$, lat. $3^1/_4$ Mill.

I sent the largest specimen to Mr. E. A. Smith, who was also in doubt about its systematic position, so I have abstained myself from naming it.

The radula resembles more that of *Crucibulum* than of *Trichotropis*, the rhachidian tooth (R) is subquadrangular, with a large multicuspidate cusp, I see 8 small denticles on each side of the median one, the laterals (1) are subrhombic, with a long cusp with denticles on both sides, about 8 on the distal side; the uncini (U) are elongate, with a few denticles near the point. This latter character is not in accordance with what is known of Trichotropidae. (Should it be possible that these small denticles have been overlooked? In *Trichotropis* the teeth much cover each other).

Fam. Seguenzidae.

**Seguenzia** Jeffreys.

1. *Seguenzia Melvilli* n. sp. Pl. XII, fig. 4; Pl. XV, fig. 12.

Stat. 88. 0° 34'.6 N., 119° 8'.5 E. 1301 M. Fine grey mud. 1 Spec.

Shell moderately large for the genus, conical, scalar, umbilicate, whitish. Whorls about 7, nucleus wanting, upper whorls eroded, lower ones each with three spiral lirae, of which the upper one runs at a little distance from the shallow but distinct suture, which is slightly undulate; from the first liration to the second, the shell is slightly convex, this latter liration is strong, prominent and divides the whorls in two subequal parts; below this liration the shell is concave towards the basal or peripheral liration, which in the upper whorls, runs just in the suture and in the last one borders the basal surface; these lirations are slightly spinous; distinct undulating plications run from one to the other of the lower lirae, with the convex side towards the aperture, on the upper part they are directed in an opposite way, being less distinct about halfway the interspace between the upper and median liration; moreover the whole shell is covered with much weaker striae, having the character of growth-striae and traces of more remote spiral striae. Basal face subconvex, but quite flat in the centre, with a shallow groove between the peripheral keel and the first of the basal lirae, this space is rather smooth, though crossed by plicae running from the peripheral spines in an oblique direction; the outermost of the basal lirae, which is not broad, is followed by two similar ones, about as strong as their interstices, the central ones, five in number, increasing in breadth towards the centre, (one of them nearly double) being larger than the interstices, these lirae are connected by small radiating riblets in the interstices; umbilicus bordered by a liration, consisting of a row of subquadrate beads, this umbilicus is pervious, funnelshaped, its wall is radiately striated and has one faint spiral rib. Aperture rounded-subquadrate, its right margin incomplete, its columellar margin curved, with a denticle in the basal part, it is slightly reflected over the umbilicus. Interior nacreous, (the nacreous texture of the inner layers is clearly visible on some of the exterior parts, where the outer layer has been removed by accidents during the youth of the animal).

Alt. $4^5/_6$, lat. $5^1/_6$; apert. alt. $1^3/_4$, lat. $2^1/_4$; diameter of umbilicus about 1 Mill.

This species has by its conical shape some resemblance with *S. trispinosa* Watson, but that species is considerably smaller, with less distinct spines, which have more the character of rounded tubercles, it has smooth interstices, without the conspicuous plications of the new species. The circumstance that the base of the specimens of *trispinosa* which I could compare is much smoother, seems to give no reliable distinguishing-character, at least Watson ("Challenger"-Gastropoda, p. 110) says: "has some faint spirals". I have named the new species in honour of Mr. J. C. Melvill, who has kindly sent me for comparison all his materials of this genus.

As to the radula of this species, it is a very small and rather obscure object, and only by teasing it to pieces, I could get an idea of the shape of the teeth, the uncini quite covering the median rows, and crossing even the uncini of the opposite side. The rhachidian or median tooth (R) has a subquadrate basal part, with rounded, convex posterior and less convex lateral

margins, it has a broad, triangular cusp, with one small median denticle and about 6 smaller ones on each side; the laterals (1) one on each side, have a transversely triangular shape, with an unarmed, arched upper and concave proximal and basal margin, with blunt points at the proximal and distal extremities of the basal margin; on each side I see at least 3, but I suppose there are 4 uncini (U) which are long, slender and strongly curved. Though this radula has some resemblance with that of *Aporrhais*, like VERRILL (Mollusca of the New England coast, Transact. Connecticut Acad. of arts and sciences, Vol. VI, May 1884, p. 186 and 188) has stated, and like his figure (l. c. pl. 31, fig. 14*b*) affirms, I cannot agree without doubt with his view that it should be Taenioglossate, as the "Siboga"-specimen has a radula with at least 9 rows of teeth and probably 11. The nacreous character of the shell agrees with the *Rhipidoglossa*, and so does the larger number of uncini. I should think the genus will belong to the *Rhipidoglossa* with a restricted number of teeth, such as *Basilissa*. As however only a knowledge of other anatomical particulars, the position and structure of the gills, of the heart etc. can decide the question I have left the family near *Trichotropis*, in accordance with the newest systematic arrangement of PELSENEER (A treatise on Zoology, edited by RAY LANKESTER, Part V, Mollusca, 1906, p. 156.

2. *Seguenzia Dautzenbergi* n. sp. Pl. XII, fig. 5.

Stat. 88. 0° 34'.6 N., 119° 8'.5 E. Makassar Strait. 1301 M. Fine grey mud. 1 Spec.
Stat. 178. 2° 40' S., 128° 37'.5 E. Ceram Sea. 835 M. Blue mud. 1 Spec.
Stat. 211. 5° 40'.7 S., 120° 45'.5 E. Banda Sea. 1158 M. Coarse grey mud. 1 Spec.

Shell rather small, spire forming a short gradate cone, umbilicate, whitish-yellow. Whorls 7, of which the uppermost forms the smooth nucleus, followed by about 2 whorls with a submedian keel and displaying a cancellated appearance by the intercrossing of subequal spiral and radiating riblets. The other whorls have each 3 spirals, of which the uppermost runs at a little distance from the suture, the next which is the strongest, renders the whorls carinate about halfway, and a third which seems to run just in the rather conspicuous suture; moreover the interstices have more or less numerous fine spirals (numerous in the type, where they quite fill the spaces); this spiral sculpture is crossed by radiating riblets, running straight in an oblique direction, from the suture to the upper spiral, where they form small crenulations, in the next interstice they are concave and at last convex towards the basal liration; last whorl rounded, with a strong peripheral keel, being the basal one of the upper whorls, and a convex base, with another spiral at some distance from the peripheral keel, and 12 basal spirals of which three more spaced ones, at a larger distance from the subperipheral spiral, and 9 more central spirals, which are flatter, at subequal distances, the innermost bordering the umbilicus; these spirals are connected by small radiating riblets in the interstices, moreover these interstices are filled, as far as I can see, with similar finer spirals as in the spire. Umbilicus moderately wide, probably pervious, funnel-shaped, its wall with fine radiating striae and a conspicuous spiral groove, terminating in a strong dentiform projection on the columellar margin. Aperture moderately large, irregular in shape, with a rather deep sinus at the suture (about $1^1/_2$ Mill, behind the most projecting part of the outer margin), it is rounded behind, with an upturned margin; the

outer margin is thin, angular by the terminations of the spiral keels; columellar margin strongly excavated above, this excavation being bordered by the strong toothlike projection formed at the end of the umbilical groove, it has the appearance of a compressed fold; below this tooth, the columellar margin runs obliquely back and terminates in a projecting point where it joins the slightly curved basal margin. Interior nacreous.

Alt. $4^1/_5$, lat. $3^5/_6$; apert. alt. $2^1/_4$, lat. $1^3/_3$; diam. of umbilicus about $^5/_6$ Mill.

This description is made after the specimen from Stat. 178, which was the most complete one, the other specimens slightly differ by the number and disposition of the basal spirals, and more considerably in the finer spirals of the interstices between the keels, which in some parts are nearly wanting and are, for instance, reduced to 1 and 3 in the spaces below the infrasutural spiral and above the peripheral keel in the specimen from Stat. 88, as however all other characters are really the same, I think these differences will prove to be individual. I may bring in remembrance what DALL says (Bull. Mus. Comp. Zool. Vol. XVIII, p. 269), dealing on *Seguenzia*: "Either each separate individual is to be regarded as a species, or the variability is very great. Persistant study of the specimens has convinced me, that the latter is the true solution, and that the most evident characters, such as the umbilicus (in some adult specimens) may be present or absent, that the number of spiral threads, their strength and sharpness on the basal disk, are entirely inconstant".

This species seems to be nearly allied to *S. elegans* Jeffr. (Proc. Roy. Soc. 1876, p. 200, Proc. Zool. Soc. Lond. 1885, p. 42, Pl. 5, fig. 1, 1*a*) but the radiating sculpture in the new species is much less crowded and coarser, the same is the case with the basal spirals, the new species is less flattened below the suture, more conical etc. These differences in specimens from such a remote provenience, have induced me to consider them as specifically distinct.

3. *Seguenzia Sykesi* n. sp. Pl. XII, fig. 6.

Stat. 241. 4° 24.3 S., 129° 49'.3 E. Banda Sea. 1570 M. Dark sand with small stones. 1 Spec.

Shell small, subglobose, spire forming a short, subgradate cone; umbilicate, whitish-yellow, with a slight nacreous lustre. Whorls about 6, of which about one forms the blunt, smooth nucleus; the next whorls, including the penultimate, have only one strong median keel, the space above and below this keel is slightly concave, with a few microscopic spiral threadlike striae; two whorls next to the nucleus are crossed by conspicuous radiating riblets, straight but in an oblique direction above the keel, convex below it, these riblets then suddenly disappear, only very fine striae succeeding them, being scarcely perceptible on the last whorl, with is bicarinate; a third keel borders the flattened base; suture rather conspicuous but shallow, with very slight traces of being margined, probably by the covered keel; base with 7 spirals of which the distal one, separated from the third keel by a slightly concave space, and one bordering the umbilicus are stronger; moreover the whole base is covered with microscopic radiating striae, beautifully waved in an S-like manner. Umbilicus moderately wide, pervious, funnel-shaped, its wall wave-striated, with a shallow spiral groove terminated by a tooth on the columella. Aperture irregularly subquadrate, its outer margin so much broken, that no sinus remains, it

is strongly sinuous by the terminations of the keels, of which the upper one becomes double at a little distance from the mouth, columellar margin connected to the outer one, by a thin layer of enamel on the body-whorl, it is first strongly excavated above by a rather deep sinus, reaching the columellar tooth, below this tooth it is again concave and terminates in an angle when it joins the basal margin at the point terminating the umbilical keel.

Alt. 3, lat. $3^1/_2$; apert. alt. $1^5/_6$, lat. $1^2/_5$, diam. of umbilicus about 1 Mill.

These measurements will be more or less altered in a specimen with complete aperture.

This new species has some resemblance with *S. elegans* Jeffr. but differs sufficiently by the number of keels and by the aperture, which, though broken, has other characters, the columella in *elegans* being much longer than it can be in a complete specimen of *S. Sykesi*, the whole shape of *S. elegans* is consequently more obliquely elongate, the sculpture is much less developed in the new species. It has also resemblance with *S. polita* Verco (Trans. and Proc. Roy. Soc. South Austr. Vol. 30, 1906, p. 222, Pl. 9, fig. 3, 4, 5), especially in its sculpture, but that species, according to Verco (l. c. Pl. 9, fig. 5) is only rimate and the keels are blunt and placed in a different manner. The nearest ally is *S. ionica* Wats. (Journ. Linn. Soc. Lond. 1878, Vol. 14, p. 589; "Challenger"-Gastrop. p. 107, Pl. 7, fig. 3), and indeed I have been in doubt if it should not be an oriental variety, but that species, as figured, is much more depressed, has a more conspicuous liration at some distance from the suture, and the radiating sculpture seems to be more conspicuous in *S. ionica*.

Named in honour of Mr. E. R. Sykes, who has sent me for comparison a beautiful lot of specimens of this genus.

4. *Seguenzia costulifera* n. sp. Pl. XII, fig. 7.

Stat. 211. 5°40'.7 S., 120°45'.5 E. 1158 M. Coarse grey sand. 1 Spec.

Shell rather small, conoidal, with a high spire and convex base, scalar, rimate, yellowish-white. Whorls about 7, of which the upper one forms the smooth, bulbous nucleus, followed by 2 whorls, which have a strong median keel and traces of a third one below the suture; these lirations become more conspicuous on the lower whorls, which have the median keel, another one just below the suture and in some parts traces of a third one, running entirely or partly in the deep suture; moreover the whole shell is covered with microscopic, close-set, spiral threads; this sculpture is crossed by conspicuous riblets, fainter on the upper whorls, very strong on the lower ones, and by very fine growth-striae; the riblets are not close-set and form conspicuous spines below the suture of the lower whorls; when they cross the upper spiral, they run obliquely from behind and are curved in the lower part of the space between the upper and median keel, being concave below; below this median keel they are convex; on the last whorl runs a third keel, which is crenulated by the ribs, this is also the case with the median keel, though not so strong; at some distance from the third keel a fourth one makes its appearance, this is a little fainter and less crenulate, the riblets between it and the third keel being also weaker. The interspaces of the keels described above are conspicuously concave. From the fourth keel untill the centre run 5 spirals, of which the distal one at a considerable

distance from the 4th keel, the innermost borders the umbilicus; these spirals are narrow, cordlike, with large interspaces, crossed by riblets in very various direction. Umbilicus rather large, but nearly closed by the columellar margin, leaving only a fissure. Aperture incomplete, a rather broad but not deep fissure at the upper part, rounded and turned up behind; shape of aperture subquadrangular, irregular by the terminations of the keels, columellar margin expanded towards the left, formed by a deep, rounded sinus above and another narrower one below, with a strong tooth between them, this tooth is strongly compressed, as if formed by pinching the columellar margin,

Alt. 5, lat. $3^1/_2$; apert. alt. $1^1/_2$, lat. $1^3/_4$ Mill.

This species resembles in shape var. *lineata* Wats. of *S. monocingulata* (WATSON's Journ. Lin. Soc. Lond. Vol. 14, p. 587; "Challenger"-Gastropoda, p. 106, Pl. 7, fig. 1); but the general outline is more convex and the elaborate sculpture is quite different, so I don't hesitate to describe it as new.

5. *Seguenzia* sp.

Stat. 300. 10°48'.6 S., 123°23'.1 E. Timor Sea. 918 M. Fine, grey mud. 1 Spec.

From this Station a specimen has been collected, belonging to the rimate species, it differs from the preceding one by its broader, less conical shape and its very simple sculpture, consisting, as far as I can see, of a strong median keel on the upper whorls, of a very weak one at the upper suture and traces of a third one at the lower suture, which latter keel is conspicuous on the last whorl, moreover very faint interstitial spiral striae, crossed by radiating, threadlike striae. The nucleus and a great deal of the outer layer of the shell are wanting, its beautiful nacreous inner layer being visible in many parts; in consequence the sculpture is only visible on some small parts, as other parts have still suffered of corrosion; the columella and umbilicus have the same character, as in the preceding species. The outer margin of the aperture is quite defective, as well as the basal sculpture. In these circumstances I have not ventured to name the species, nor have I accurately described it, though it will be probably new.

6. *Seguenzia monocingulata* Seguenza.

SEGUENZA. Bull. del Com. Geol. Vol. VII, 1876, p. 188.
VERRILL. Trans. Connecticut Acad. Vol. VI, 1882—85, p. 186 (*formosa*).
TRYON. Man. of Conch. Vol. IX, p. 46, Pl. 8, fig. 71.

Stat. 137. 0°23'.8 N., 127°29' E. Between Makjan and Halmahera. 472 M. Fine, dark, muddy sand. 2 Spec.
Stat. 241. 4°24'.3 S., 129°49'.3 E. Banda Sea. 1570 M. Dark sand with small stones. 1 Spec.

These specimens have much puzzled me, those from the two stations being considerably different. That from Stat. 241 is more slender and has a coarser sculpture, somewhat different from the specimens collected at Stat. 137. The reasons that I have united them to the Atlantic *S. monocingulata* are: the great variability of that species, as already stated by DALL in his publication on the "Blake" Mollusca, quoted before in dealing with *S. Dautzenbergi*; the differences

in the figures at my disposal, and last not least, the specimens received for comparison of Mr. DAUTZENBERG and of Mrs. J. C. MELVILL and E. R. SYKES, the specimen from Stat. 241 more resembling the specimens of DAUTZENBERG and SYKES by its stronger, shorter, more remote, concave riblets between the sutural and next keel, while the specimens from Stat. 137, of which one is a beautiful shell containing the soft parts, better agrees with Mr. MELVILL's specimens, with weaker, longer, more crowded riblets in the same space, these riblets being nearly straight and only curved in their basal part, in this respect more resembling *S. eremita* Verrill (Trans. Conn. Acad. Vol. VI, Pl. 31, fig. 15); these latter specimens have the subsutural liration but very little developed, much less so than in the specimens of DAUTZENBERG and part of those of SYKES, which are slightly variable in this respect.

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## Fam. VERMETIDAE.

This family is perhaps the most disagreeable amongst Gastropods to deal with; the extreme variability in the majority of the species and the often vague descriptions, render it impossible in many cases, to make safe identifications, except in a few instances, if the species have prominent characters. Many of the names applied below are more or less doubtful and not a few specimens must remain without name. In vain I hoped that the keeper of the mollusca in the British Museum, where the types of MÖRCH are preserved as far as I know, with his usual kindness should give me assistance, but he wrote me he knew nothing about that family; and though "nothing" will probably be too strong an expression, I could not get the hoped for certainty.

### **Tenagodus** Guettard.

1. *Tenagodus (s. str.) ponderosus* Mörch.

MÖRCH. Proc. Zool. Soc. Lond. 1860, p. 409.
REEVE. Conch. Ic. Vol. XX, Siliquaria, fig. 3.
TRYON. Man. of Conch. Vol. VIII, p. 188, Pl. 57, fig. 11.

Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 5 Spec.

The specimens agree very well with the quoted figures, though they are smaller, surpassing however considerably the other East-Indian species in size. The species has only been recorded from Australia.

2. *Tenagodus (s. str.) trochlearis* Mörch.

MÖRCH. Proc. Zool. Soc. Lond. 1860, p. 408.
REEVE. Conch. Ic. Vol. XX, Siliquaria, fig. 4.
TRYON. Man. of Conch. Vol. VIII, p. 189, Pl. 57, fig. 14.

Stat. 66. Bank between islands of Bahuluwang and Tambolungan, South of Saleyer. 8 M. Dead coral, Halimeda, Lithothamnion. 1 Spec.
Stat. 125. Sawan, Siau-island. 27 M. Stone and some Lithothamnion. 1 Spec.
Stat. 144. Damar-island. 45 M. Coral-bottom and Lithothamnion. 2 Spec.

Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. Lithothamnion. 1 Spec.
Stat. 310. 8° 30′ S., 119° 7′.5 E. Flores Sea. 73 M. Sand with few pieces of dead coral. 18 Spec.

Many of the specimens are young and consequently of very doubtful identification.

3. *Tenagodus (Agathirses) Cumingi* Mörch.

Mörch. Proc. Zool. Soc. Lond. 1860, p. 403.
Reeve. Conch. Ic. Vol. XX, Siliquaria, fig. 2.
Tryon. Man. of Conch. Vol. VIII, p. 190, Pl. 57, fig. 19; Pl. 58, fig. 21.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 154. 0° 7′.2 N., 130° 25′.5 E. Near Waigeu-island. 83 M. Grey muddy sand, shells and Lithothamnion. 1 Spec.
Stat. 164. 1° 42′.5 S., 130° 47′.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 10 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 2 Spec.
Stat. 310. 8° 30′ S., 119° 7′.5 E. Flores Sea. 73 M. Sand with few pieces of dead coral. 6 Spec.

I have united under this name those specimens with granular lirae below, it is the only species which, according to the descriptions of Mörch and Tryon, possesses this character. In Reeve's Conch. Ic. no mention has been made of this character.

4. *Tenagodus (Agathirses) Bernhardi* Mörch.

Mörch. Journ. de Conch. 1860, p. 368.
Reeve. Conch. Ic. Vol. XX, Siliquaria, fig. 9.
Tryon. Man. of Conch. Vol. VIII, p. 190, Pl. 58, fig. 22.

Stat. 77. Borneo-bank. 59 M. Fine grey coralsand. 1 Spec.
Stat. 310. 8° 30′ S., 119° 7′.5 E. Flores Sea. 73 M. Sand with few pieces of dead coral. 1 Spec.

In the specimen from the last named Station the upper whorls are wanting.

5. *Tenagodus (Agathirses) muricatus* Born.

Born. Test. Caes. Vindobon. p. 446, Pl. 18, fig. 6.
Rumph. Amb. Rariteitkamer, p. 125, Pl. 41, fig. H.
Reeve. Conch. Ic. Vol. XX, Siliquaria, fig. 7 (*anguina*).
Tryon. Man. of Conch. Vol. VIII, p. 190, Pl. 58, fig. 23—25 (*anguina*).

Stat. 164. 1° 42′.5 S., 130° 47′.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 2 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 5 Spec.

6. *Tenagodus (Pyxipoma)* sp.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.

The specimen resembles the figure of *T. encausticus* Mörch in Reeve's Conch. Iconica (fig. 10) but the description of the slit does not agree with the specimen. As it is broken, I have abstained myself from describing it as new, moreover it seems to be very dangerous in such a variable and most difficult group, to erect species on single specimens. It is the same case with some other small specimens, from the same and other localities.

7. *Tenagodus (Pyxipoma) lacteus* (Lam.) Mörch.

LAMARCK. An. s. vert. Ed. II, Vol. V, p. 584?
REEVE. Conch. Ic. Vol. XX, Siliquaria, fig. 5.
TRYON. Man. of Conch. Vol. VIII, p. 191, Pl. 58, fig. 26.

Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 1 Spec.
Stat. 310. 8° 30′ S., 119° 7′.5 E. Flores Sea. 73 M. Sand with few pieces of dead coral. 6 Spec.

The specimens agree rather well with the figures and descriptions of REEVE and TRYON (l. c.) and also with the description of MÖRCH (Proc. Zool. Soc. Lond. 1860, p. 409), but neither with the figure of CHENU: Illustrations conchyliologiques, Siliquaria, Pl. 2, fig. 1, quoted by MÖRCH nor with the description of that author (l. c. p. 2), who says a. o.: "coquille semitransparante, très lisse, avec la fissure inarticulée", instead of an articulated slit, closed behind, open near the aperture, like MÖRCH, REEVE and TRYON have stated. LAMARCK's description (l. c.) agrees with that of CHENU, as may be stated by a copy of his diagnose: "S. testa contorta, parvula, semipellucida, candida, laevissima, fissura inarticulata".

## Vermetus Adanson.

This genus is still more perplexing than the former, as has been discussed by TRYON in his introduction of the genus (Man. of Conch. Vol. VIII, p. 163). I have only been successful in identifying two of the species and even not quite satisfactorely.

1. *Vermetus renisectus* (Carpenter) Mörch.

MÖRCH. Proc. Zool. Soc. Lond. 1861, p. 346.
TRYON. Man. of Conch. Vol. VIII, p. 170, Pl. 49, fig. 25, 26.

Stat. 100. 6° 11′ N., 120° 37′.5 E. Sulu Sea. 450 M. Dead coral. 3 Spec. (in a cluster).
Stat. 172. Island Gisser. Reef. 1 Spec.
Stat. 310. 8° 30′ S., 119° 7′.5 E. Flores Sea. 73 M. Sand with few pieces of dead coral. 1 Spec.
Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 4 Spec.

The specimens from the first-named Station are bleached, they will probably not have lived at that great depth, that from Stat. 172 is fixed on the hollow side of what seems to be one of the squamae of a large *Tridacna*.

var. ?

Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 2 Spec. (cluster).

Appears to be a dark-brown variety of *V. renisectus*, with somewhat faint lamellae. It is however impossible to me, to decide to which of the numerous varieties described by MÖRCH it may belong.

2. *Vermetus* sp.

Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 2 Spec.

The specimens are strongly ribbed, probably young. I cannot identify them.

3. *Vermetus* sp.

Stat. 251. 5° 28'.4 S., 132° 0'.2 E. Arafura Sea. 204 M. Hard coralsand. Many specimens.

A large number of specimens fixed to stones and other substances, has a superficial resemblance with *V. renisectus*, but differs by having no interior lamellae.

4. *Vermetus* sp.

Stat. 209. South point of Kabaëna-island. 22 M. Coarse sand. 1 Spec.
Stat. 303. Haingsisi, Samau-island. Up to 36 M. Lithothamnion. 1 Spec.
Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

I can find no figure agreeing with this rather peculiar species, which has a granular sculpture and seems to agglutinate small foreign bodies. No internal laminae.

5. *Vermetus maximus* Sowerby.

SOWERBY. Cat. Coll. Tankerv. App. N° 23.
CHEMNITZ. Ill. Conch. Vermetus, Pl. 5, fig. 6 (*gigas*).
TRYON Man. of Conch. Vol. VIII, p. 184, Pl. 55, fig. 89, 90.

Stat. 248. Rumah Lusi, North point of Tiur-islands. Reef. 4 Spec.

The tubes are for a good deal imbedded in coral.

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Fam. TURRITELLIDAE.

**Turritella** Lamarck.

1. *Turritella (s. str.) terebra* Linné.

LINNÉ. Syst. Nat. Ed. XII, p. 1239.
RUMPH. Amb. Rariteitkamer, p. 100, Pl. 30, fig. M.
KIENER. Coq. Viv. Vol. IX, Turritella, p. 4, Pl. 3, fig. 4.
REEVE. Conch. Ic. Vol. V, Turritella, fig. 3.
TRYON. Man. of Conch. Vol. VIII, p. 195, Pl. 59, fig. 32, 33.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Turritella, p. 29, Pl. 7, fig. 2.

Stat. 1. 1400 M. from "Zwaantjes-droogte", Madura-strait. 37 M. Grey mud with small broken shells. 3 Spec.

2. *Turritella (s. str.) leptomita* Melvill & Sykes.

MELVILL & SYKES. Proc. Mal. Soc. Lond. Vol. II, p. 171, Pl. 13, fig. 12, 12*a*.

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.
Stat. 231. Amboina. 40 M. Coralsand. 1 Spec.

The specimen from Stat. 133 is larger than the type, being 29 Mill. instead of 21,5 (that from Amboina is young), the whorls, if wet, are faintly stained with brown, especially on the

keels, but if dry, the shell seems to be "pale ash-colour", in every other respect the specimens agree with the description. The type has been collected at the Andaman-isles.

3. *Turritella (s. str.) cingulifera* Sowerby.

SOWERBY. Cat. Coll. Tankerv. App. p. 14.
KIENER. Coq. Viv. Vol. IX, Turritella, p. 34, Pl. 8, fig. 3 (*fragilis*).
REEVE. Conch. Ic. Vol. V, Turritella, fig. 64.
TRYON. Man. of Conch. Vol. VIII, p. 198, Pl. 59, fig. 38, 39, 41.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Turritella, p. 23, Pl. 5, fig. 11 (*cingulata*), p. 33, Pl. 8, fig. 7, 8 (*fragilis*).

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 6 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 6 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 8 Spec.
Stat. 58. Seba, Savu. Up to 27 M. Sand. 1 Spec.
Stat. 61a. North coast of Adonara. Shore. 1 Spec.
Stat. 64. Kambaragi-bay, Tanah-Djampeah. 32 M. Coral, coralsand. 1 Spec.
Stat. 77. Borneo-bank. 59 M. Fine, grey coralsand. 1 Spec.
Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 2 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 123. North-bay, Biaru-island. 27—36 M. Stone and Lithothamnion-bottom. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 2 Spec.
Stat. 142. Laiwui, North coast of Obi Major. 23 M. Mud. 13 Spec.
Stat. 204. Between islands Wowoni and Buton. 75—94 M. Sand with dead shells. 2 Spec.
Stat. 231. Amboina 54 M. Coralsand. 2 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 2 Spec.
Stat. 279. Rumah-Kuda-bay, Roma-island. 36 M. Mud and sand. 2 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. Lithothamnion. 3 Spec.
Stat. 306. Near mount Lobetobi. 29 M. Lithothamnion-bottom. 3 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 62 Spec.

This common and widely spread species is very variable in many respects, and so I can agree with the views of TRYON, who unites several species with it. I have however found no specimens corresponding to *T. fusco-cincta* Petit. The colour varies from nearly white (probably bleached) to yellowish-brown and even uniformly rather dark brown, in which latter case the brown sutural band is scarcely perceptible. The whorls are more or less convex; in most cases, but not always, the upper whorls are flatter, the lower ones convex. The sculpture varies in distinctness of the keels, which are more or less granular on one, two or on all the lirae, and this only on the upper whorls or on the whole shell, with many intermediate stages; in consequence it is impossible, with so many specimens as I could compare, to separate them in different species, even the specimens from the same locality, are as variable as those from different parts of the Archipelago.

4. *Turritella (Haustator) maculata* Reeve.

REEVE. Conch. Ic. Vol. V, Turritella, fig. 33.
TRYON. Man. of Conch. Vol. VIII, p. 202, Pl. 63, fig. 83.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Turritella, p. 48, Pl. 15, fig. 7.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 12 Spec.
Stat. 311. Sapeh-bay, East coast of Sumbawa. Up to 36 M. Mud and sand. 1 Spec.

The specimens from Stat. 47 and 311 are young and bleached, in consequence their identification is not quite safe. The largest specimen from Stat. 164 is very characteristic, but the violet colour of the base is wanting; the brown lines of the base are less numerous or even nearly wanting in young specimens. It appears that if the figures of KOBELT, l. c. Pl. 15, fig. 3—6, are correct, they belong to some other species. This species seems to be variable, at least I have seen some specimens agreeing in many respects, but differing in other particulars; I describe them as:

var. *ornata* n. var. Pl. XI, fig. 11.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 12 Spec.

Differing from the type in being more painted with yellowish-brown. The spotted band below the suture is broader; base with six white lirae, with small brown spots; the interstices of the lirae are spirally striate, as in the type.

Though at a first look differing considerably from the type, the sculpture is really the same, so I have not ventured to describe a new species on the slight differences recorded above. The majority of the specimens is still young.

5. *Turritella (Haustator)* sp.

Stat. 299. Buka-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.

This specimen is still very nearly allied to var. *ornata* of the preceding species, especially by the colour-pattern of the base, but the whorls are strongly flammulate, and the articulated band below the suture, if present at all, is not conspicuous.

6. *Turritella (Torcula) concava* v. Martens.

v. MARTENS. Beitr. zur Meeresf. der Insel Mauritius u. Seychellen. Moll. p. 283, Pl. 20, fig. 19.
TRYON. Man. of Conch. Vol. VIII, p. 206, Pl. 64, fig. 6.

Stat. 315. Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

Only one young specimen has been collected, it exactly agrees with the description, however I can find no traces of the small reddish dots, which I have detected on a fossil specimen from Celebes (Samml. des Geol. Reichsmus. Leiden, Ser. I, Vol. VIII, p. 190) which were also present, though much less conspicuous on a typical specimen, received for comparison, from the Zool. Museum in Berlin.

Moreover a number of small specimens has been collected, they are probably young, but could not be identified, as the upper whorls of adult specimens are nearly invariably wanting and consequently cannot be used for comparison.

Fam. MELANIDAE.

**Melania** Lamarck.

1. *Melania (Stenomelania) funiculus* Quoy & Gaimard.

QUOY & GAIMARD. Voy. Astrolabe. Zool. Vol. III, p. 158, Pl. 56, fig. 43, 44.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 136, Pl. 17, fig. 1.

Stat. 19. River near Labuan Tring, Lombok. 1 Spec.
Stat. 131. Brook near Beo, Karakelang-islands. 2 Spec.
Stat. 174. Brook near Waru, Ceram. 1 Spec.

The specimen from Waru is small, with very indistinct folds and spiral striae in the constricted upper part of the whorls and at the base, those from Beo, have costulate upper whorls, but the lower ones are smooth, with only a few spiral striae.

2. *Melania (Stenomelania) turris* Brot.

BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 146, Pl. 18, fig. 5.

Stat. 131. Brook near Beo, Karakelang-islands. 1 Spec.
Stat. 174. Brook near Waru, Ceram. 1 Spec.

The specimens agree very satisfactorily with such formerly identified for me by Dr. BROT.

3. *Melania (Stenomelania) crenulata* Deshayes.

DESHAYES. Lam. An. s. vert. Ed. II, Vol. VIII, p. 434.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 114, Pl. 14, fig. 9.
v. MARTENS. Süss u. Brackw. Moll. Ind. Arch. p. 45.

Stat. 19. River near Labuan Tring, Lombok. 7 Spec.

The specimens belong to one of the smaller varieties, as far as I know the species has not yet been recorded from Lombok.

4. *Melania (Stenomelania) uniformis* Quoy & Gaimard.

QUOY & GAIMARD. Voy. Astrolabe. Zool. Vol. III, p. 154, Pl. 56, fig. 30—35.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 124, Pl. 15, fig. 3, 3*a*; Pl. 16, fig. 1.
v. MARTENS. Süss- u. Brackw. Moll. Ind. Arch. p. 46.

Stat. 19. River near Labuan Tring, Lombok. 7 Spec.

v. MARTENS (l. c. p. 47) says to have seen specimens from Lombok in the Cumingian collection.

5. *Melania (Stenomelania) arctecava* Mousson.

MOUSSON. Journ. de Conch. 1857, p. 161.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 165, Pl. 20, fig. 1.

Stat. 131. Brook near Beo, Karakelang-islands. 18 Spec.
Stat. 174. Brook near Waru, Ceram. 1 Spec.

Agreeing with specimens named by BROT.

6. *Melania (Stenomelania) punctata* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. VIII, p. 430.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 168, Pl. 20, fig. 4.

Stat. 131. Brook near Beo, Karakelang-islands. 2 Spec.
Stat. 133. Brook near Lirung, Salibabu-island. 7 Spec.

The specimens agree with BROT's figures and with specimens named by that authority. BROT unites *M. albescens* Lea to *punctata* Lam. and seems to be inclined to unite also *M. laevigata* (l. c. p. 172), v. MARTENS (Süss- u. Brackw. Moll. p. 49) is in doubt about this question, but suggests that my *M. punctata* Lam. from Kupang, Timor, belongs to *laevigata*. BROT has verified and approved my identification of the latter specimens. How this may be, the specimens now under consideration, belong no doubt to the true *M. punctata* Lam.

7. *Melania (Stenomelania) sobria* Lea.

LEA. Proc. Zool. Soc. Lond. 1850, p. 181.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 178, Pl. 21, fig. 5.

Stat. 174. Brook near Waru, Ceram. 6 Spec.

Though small, some specimens seem to be adult; one of them has a slight angle below the suture of last whorl, thus forming a passage to *M. cochlidium* Lea, but it is not so strong as in that species.

8. *Melania (Melanoides) tuberculata* Müller.

MÜLLER. Hist. Vermium. Vol. II, p. 191.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 247, Pl. 26, fig. 11.
v. MARTENS. Süss. u. Brackw. Moll. Ind. Arch. p. 56.

Stat. 174. Brook near Waru, Ceram. 1 Spec.

This specimen belongs to a variety with only a few spiral striae at the lower part of the median whorls, somewhat like var. *seminuda* v. Martens (l. c. p. 58, Pl. IV, fig. 1), but that variety according to the figure of v. MARTENS and specimens from Adonara in my collection is strongly flamed. By its sculpture it resembles specimens from Supajang (Sumatra).

9. *Melania (Melanoides) malayana* Issel.

ISSEL. Ann. del Mus. Civ. di Stor. Nat. di Genova. Vol. VI, 1874, p. 463.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 253, Pl. 26, fig. 5.

Stat. 82. Mahakkam river, Batu Pangal, Borneo. 1 Spec.

Though Issel has described this form as a variety of *M. tuberculata* Müll.. I think Brot may be right in separating it, on account of the very flat whorls.

10. *Melania (Melanoides) salibabuensis* n. sp. Pl. XII, fig. 8.

Stat. 133. Lake Telaga Bindu near Lirung, Salibabu-island. 24 Spec.

Shell pyramidal, dark olive, with faint purple-brown flames, especially on the upper whorls, often completely wanting on the lower ones; strongly decollated, remaining whorls 3 to 4, slightly convex near the median part, constricted below the sutures, which are very conspicuous. Sculpture consisting of numerous growth-striae, of which several, at irregular distances are stronger and nearly riblike, these striae are crossed by impressed spiral striae, which occupy nearly the whole surface of the upper whorls (in younger specimens), leave the upper part of the median whorls free and are restricted on the median part of last whorl, where the basal part is smooth again. Aperture ovate with a rather sharp angle above, outer margin protracted below, columellar margin with a strong layer of enamel, which is dark grey in its upper part, white below, with a yellow tinge near the base and a black rim all around; base of aperture broadly sinuous.

Alt. (of large specimen) 22, lat. 9; apert. alt. 9 Mill.

This species is allied to *M. turriculus* Lea and *crepidinata* Reeve, but the whorls are much less convex than in the latter species, they better agree in this respect with *M. turriculus* but in that species the base is striated, the aperture not so strongly sinuous. This latter character may serve to distinguish the new species from its allies.

11. *Melania (Plotia) scabra* Müller.

Müller. Hist. Vermium. Vol. II, p. 136.
Brot. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 266, Pl. 27, fig. 14, 15.
v. Martens. Süss- u. Brackw. Moll. Ind. Arch. p. 62.

Stat. 33. River near Pidjot, Lombok. 8 Spec.
Stat. 53. River near Waingapu, Sumba. 6 Spec.
Stat. 115. River near Kwandang, North-Celebes. 4 Spec.

12. *Melania (Plotia) acanthica* Lea.

Lea. Proc. Zool. Soc. Lond. 1850, p. 194.
Brot. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 278, Pl. 28, fig. 10.

Stat. 142. River near Laiwui, Obi Major. 28 Spec.

Small but very characteristic by the long spines of the majority of the specimens.

13. *Melania (Plotia) Savinieri* Brot.

Brot. Recueil Zool. Suisse. Vol. IV, 1886, p. 93, Pl. 5, fig. 9.
Morlet. Journ. de Conch. 1884, p. 330, Pl. 7, fig. 2.

Stat. 82. Mahakkam river, Batu Pangal, Borneo. Numerous specimens.

The species has only been recorded from Java. I cannot distinguish the Bornean specimens from those received from Java, formerly named by BROT.

14. *Melania (s. str.) setosa* Swainson.

SWAINSON. Quart. Journ. Science. 1824, p. 13.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 297, Pl. 30, fig. 5, 6; Pl. 31, fig. 1.
v. MARTENS. Süss- u. Brackw. Moll. Ind. Arch. p. 66.

Stat. 131. Brook near Beo, Karakelang-islands. 9 Spec.

This is as far as I know the first record in litterature for the species, from this locality.

15. *Melania (Tiaropsis) rudis* Lea.

LEA. Proc. Zool. Soc. Lond. 1850, p. 186.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 305, Pl. 32, fig. 1.

Stat. 179. River in Kawa-bay, West coast of Ceram. 1 Spec.

The specimen has the shape of the type, represented by fig. 1 of BROT, but has three brown bands of which one below the suture, one below the periphery and the third near the base.

16. *Melania (Tarebia) celebensis* Quoy & Gaimard.

QUOY & GAIMARD. Voy. Astrolabe. Zool. Vol. III, p. 152, Pl. 56, fig. 26—29.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 317, Pl. 32, fig. 15.
v. MARTENS. Süss- u. Brackw. Moll. Ind. Arch. p. 69.

Stat. 19. River near Labuan Tring, Lombok. 14 Spec.

This species has not yet been recorded from Lombok, the specimens vary in the development of the granules.

17. *Melania (Tarebia) granifera* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. VIII, p. 433.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 321, Pl. 33, fig. 13.
v. MARTENS. Süss- u. Brackw. Moll. Ind. Arch. p. 71.

Stat. 33. River near bay of Pidjot, Lombok. 26 Spec.

I think this species is new for Lombok.

18. *Melania (Tarebia) lateritia* Lea.

LEA. Proc. Zool. Soc. Lond. 1850, p. 196.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 319, Pl. 33, fig. 1.

Stat. 53. River near Waingapu, Sumba. 6 Spec.

Agrees sufficiently with specimens from the island of Sumba formerly named by BROT.

19. *Melania (Tarebia) mauiensis* Lea.

LEA. Proc. Ac. Nat. Sc. Philad. 1856.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 322, Pl. 33, fig. 7, 8 (9?).

Stat. 53. River near Waingapu, Sumba. 24 Spec.

BROT (l. c. p. 324) says that he is unable to distinguish *M. crenifera* Lea (BROT l. c. fig. 9), from *M. mauiensis*; in accordance therewith he may have named specimens from the same island. The specimens now under consideration, agree fairly well with those I had formerly sent to that authority for comparison. v. MARTENS (Süss- u. Brackw. Moll. p. 305) makes only mention of *M. crenifera*, as inhabiting Java.

### **Faunus** Montfort.

1. *Faunus ater* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 746, N° 441.
RUMPH. Amb. Rariteitkamer, p. 101, Pl. 30, fig. R.
BROT. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Melania, p. 410, Pl. 44, fig. 3.
v. MARTENS. Süss- u. Brackw. Moll. Ind. Arch. p. 191.

Stat. 179. River in Kawa-bay, West coast of Ceram. 41 Spec.

The largest specimens are still a trifle larger than those (75 Mill.) recorded by BROT; one of them has the polished surface on one side, mentioned by v. MARTENS (l. c. p. 192), the black incrustation is wanting on the whole length, and on more than a third of the length, the epidermis has not only disappeared, but also part of the shelly matter has been ground away and becomes more or less transparent on that side.

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## Fam. LITTORINIDAE.

### **Littorina** Ferussac.

1. *Littorina (Littorinopsis) scabra* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 770, N° 584.
RUMPH. Amb. Rariteitkamer, p. 98, Pl. 29, fig. Y.
REEVE. Conch. Ic. Vol. X, Littorina, fig. 21.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Littorina, p. 37, Pl. 4, fig. 7—10, 12, 16—18.
TRYON. Man. of Conch. Vol. IX, p. 243, Pl. 42, fig. 18—20.

Stat. 37. Sailus Ketjil, Paternoster-islands. Up to 18 and 27 M. Coral and coralsand. 21 Spec.
Stat. 47. Bay of Bima, near South fort. 13—31 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 61a. North coast of Adonara. Shore. 1 Spec.
Stat. 86. Dongala, Palos-bay, Celebes. Reef and 36 M. 10 Spec.
Stat. 165. North-east side of Daram-island, East coast of Misool. Reef. 1 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.

Very variable in colour, but the only specimen that seems to deserve a varietal name is:

var. *lutea* Philippi.

PHILIPPI. Abb. u. Beschr. neuer oder wenig gekannter Conch. Vol. III, p. 221, Littorina, Pl. 5, fig. 11.

Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud. 1 Spec.

PHILIPPI has quoted in the text fig. 6 for this variety, but it evidently is fig. 11 that agrees with the description, fig. 10 is his variety *suturalis*, quoted as fig. 7. The figs 6—9 of that author represent his *L. intermedia*, considered by many authors to be merely a variety; it is often not an easy task to distinguish it from younger specimens of *L. scabra*. It seems that TRYON (l. c. p. 244, Pl. 42, fig. 21—24) has mixed the two species, for his character "periphery angulated or carinated", is in contradiction with PHILIPPI's original description, the figures 22 and 24 are probably young specimens of *scabra*.

2. *Littorina (Littorinopsis) undulata* Gray.

GRAY. Zool. Beechey's Voy. p. 140.
REEVE. Conch. Ic. Vol. X, Littorina, fig. 67.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Littorina, p. 73, Pl. 9, fig. 15, 16.
TRYON. Man. of Conch. Vol. IX, p. 244, Pl. 43, fig. 39, 40.

Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. Sand. 2 Spec.

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Fam. RISSOIIDAE.

**Rissoina** d'Orbigny.

1. *Rissoina micans* A. Adams.

ADAMS. Proc. Zool. Soc. Lond. 1851, p. 265.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Rissoina, p. 17, Pl. 7, fig. 4.
TRYON. Man. of Conch. Vol. IX, p. 371, Pl. 55, fig. 28.

Stat. 306. 8° 27′ S., 122° 54′.5 E. Savu Sea. 247 M. Sandy mud. 1 Spec.

The only specimen is a bleached shell.

2. *Rissoina (Rissolina) plicata* A. Adams.

ADAMS. Proc. Zool. Soc. Lond. 1851, p. 264.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Rissoina, p. 23, Pl. 8, fig. 5, 6.
TRYON. Man. of Conch. Vol. IX, p. 375, Pl. 56, fig. 58—60.

Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

This specimen is a dead shell.

3. *Rissoina (Rissolina)* sp.

Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

The shell is too much worn for identification.

4. *Rissoina (Phosinella) erythraea* Philippi.

PHILIPPI. Zeitschr. f. Malak. 1851, p. 93.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Rissoina, p. 39, Pl. 11, fig. 6; p. 64, Pl. 15, fig. 16; Pl. 15*c*, fig. 2 (*Seguenziana*).
TRYON. Man. of Conch. Vol. IX, p. 382, Pl. 37, fig. 97—2; Pl. 58, fig. 3, 4.

Stat. 231. Amboina. Reef. 3 Spec.

The specimens are rather elongate.

5. *Rissoina (Mörchiella) spirata* Sowerby.

SOWERBY. Gen. of Shells. N$^0$ 40, Pl. 208, fig 2.
REEVE. Conch. Ic. Vol. XX, Rissoa, fig. 17.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Rissoina, p. 42, Pl. 12, fig. 4.
TRYON. Man. of Conch. Vol. IX, p. 388, Pl. 58, fig. 29.

Stat. 66. Bank between islands of Bahuluwang and Tambolungan. 8—10 M. Dead coral, Halimeda and Lithothamnion. 1 Spec.

This specimen is sufficiently typical.

mut. *deformis* Sowerby.

REEVE. Conch: Ic. Vol. XX, Rissoa, fig. 63.
TRYON. Man. of Conch. Vol. IX, p. 388, Pl. 59, fig. 35.

Stat. 125. Sawan, Siau-island. 27 M. Stone and some Lithothamnion. 1 Spec.

The only specimen shows more affinity to the next variety than to the type, being more slender and delicate.

var. *Montrouzieri* Souverbie.

SOUVERBIE. Journ. de Conch. 1862, p. 237, Pl. 9, fig. 5.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Rissoina, p. 57, Pl. 14, fig. 15.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 142. Laiwui, North coast of Obi major. 23 M. Mud. 1 Spec.

The specimens sufficiently agree with the original figure; it is often difficult with so variable a species, to identify every specimen and to bring it to some described form. It is however still more difficult to keep them separate as good species, unless one destroys intermediate specimens.

6. *Rissoina (Zebina) tridentata* Michaud.

MICHAUD. Descript. Genre Rissoa, p. 6, fig. 5, 6.
SCHWARZ. v. MOHRENSTERN. Rissoina, p. 107, Pl. 9, fig. 74.

Stat. 78. Lumu-Lumu-shoal. Borneo-bank. Reef. 1 Spec.

The specimen is not in very good condition, so I had, like some of my predecessors, first taken it for an *Eulima*.

### **Rissoia** Fréminville.

1. *Rissoia* sp.

Stat. 285. South coast of Timor. 34 M. On the limit between mud and coral. Lithothamnion. 1 Spec.

Having much resemblance with the description and figure of *R. venusta* Garret, by its shape and sculpture, consisting of strong, compressed, spiral ridges, of which 2 on the upper whorls, 5 on the body whorl and conspicuous radiating riblets; but the shell is smaller, there are a few secundary spirals, especially on the body whorl and the lip is not varicose; as it is however very thin and fragile, the specimen may be juvenile. Under these circumstances, I am not able to identify this single specimen, nor to describe it as new with a sufficient degree of certainty.

2. *Rissoia kwandangensis* n. sp. Pl. XII, fig. 9.

Stat. 115. East side of Pajunga-island, Kwandang-bay, North Celebes. Reef. 1 Spec.

Shell small, conic-oval, solid, opaque; whorls about 6, slightly convex, separated by a deep suture, colour whitish, with spiral rows of purple-brown spots. Nuclear whorls smooth, sculpture of subsequent whorls consisting of rather thin, straight ribs, about 18 on the last whorl, crossed by spiral ridges, of which there are 6 on the penultimate whorl and 11 on the last one, the sixth running just in a channel above the suture; this sculpture renders the shell cancellated; moreover fine growth-striae make their appearance in the squares remaining in the interstices of this sculpture. Of the brown spots the upper spiral row runs a little below the suture, on the alternating ribs, and five fainter ones, on the basal part of last whorl. Aperture rounded oval, slightly angular above, outer margin regularly curved, with a strong varix externally; columellar margin reflected over the pillar and the base. Varix adorned with two larger brown spots, one at the upper and one at the basal part.

Alt. $2^1/_2$, lat. $1^1/_4$; apert. alt. $^4/_5$, lat. $^4/_7$ Mill.

This small species is allied to *R. versoverana* Melv. (Mem. Manch. Philos. Soc., VII, 1893, p. 61) but that species is much more ventricose.

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Fam. Hydrobiidae.

### **Bithynia** Leach.

1. *Bithynia truncata* Eydoux & Souleyet.

Eydoux & Souleyet. Voy. de la Bonite. Zool. Vol. II, p. 348, Pl. 31, fig. 22—24.
v. Martens. Süss- u. Brackw. Moll. Ind. Arch. p. 25, Pl. 9, fig. 11, 11*b*.

Stat. 4. Rivulet near Djangkar (Java). 2 Spec.

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Fam. VIVIPARIDAE.

**Vivipara** Lamarck.

1. *Vivipara javanica* v. d. Busch.

v. D. BUSCH in Philippi: Abbild. u. Beschr. neuer Conch. Vol. I, p. 114, Paludina, Pl. 1, fig. 11, 12.
REEVE. Conch. Ic. Vol. XIV, Paludina, fig. 52.
v. MARTENS. Süss- u. Brackw. Moll. Ind. Arch. p. 21.

Stat. 231. Brook at Amboina. 1 Spec.

v. MARTENS in his list, giving the geographical distribution (l. c. p. 302) records *V. javanica* with doubt from the Moluccos; by this specimen, which though young is in good condition, the proof of its living there, has been delivered.

2. *Vivipara costata* Quoy & Gaimard.

QUOY & GAIMARD. Voy. Astrol. Zool. Vol. III, p. 470, Pl. 58, fig. 1—5.
REEVE. Conch. Ic. Vol. XIV, Paludina, fig. 6.
v. MARTENS. Süss- u. Brackw. Moll. Ind. Arch. p. 20.

River near Tondano, Celebes. 8 Spec.

Rather small, but quite characteristic.

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Fam. AMPULLARIIDAE.

**Ampullaria** Lamarck.

1. *Ampullaria ampullacea* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 771, N$^0$ 592.
RUMPH. Amb. Rariteitkamer, p. 92, Pl. 27, fig. Q.
REEVE. Conch. Ic. Vol. X, Ampullaria, fig. 48.
v. MARTENS. Süss- u. Brackw. Moll. Ind. Arch. p. 17.

Stat. 47. River at Bima, Sumbawa. 1 Spec.

The specimen is small, with rather high spire, the shape of the aperture and the operculum are sufficient to distinguish it from the small *A. scutata*; the right margin is thin, so it is a young specimen. This is as far as I am aware the first record for Sumbawa.

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Fam. CYCLOPHORIDAE.

**Leptopoma** L. Pfeiffer.

1. *Leptopoma diplochilus* Sykes.

SYKES. Journ. of Malacology. Vol. X, 1903, p. 66, Pl. 6, fig. 16—18.

Stat. 155. Piapis-bay, N. W. coast of Waigeu-island. Shore. 2 Spec.

The specimens are smaller than those described by SYKES, who calls the colour pale lilac; this is scarcely applicable to the Siboga-specimens, but the strongly projected inner lip which is so characteristic for this species is distinctly present in one specimen, where its length reaches nearly $2^1/_2$ Mill., in the other one, which is probably younger, this projection is still very slight, but in nearly every other respect it agrees with the more typical one, so I don't hesitate to unite them.

## **Cyclotus** Guilding.

1. *Cyclotus kangeanus* (v. Mlldff.) n. sp. Pl. XII, fig. 10.

Stat. 16. Kangeang. 3 Spec.

Shell depressedly turbinate, openly umbilicated, rather smooth, but with conspicuous growth-striae on the upper whorls, fading on the last one, which is irregularly pitted, moreover a large part of the shell, if fresh, is covered by very fine spiral striae and an irregular, impressed line, which is at some places double, runs at some distance from the deep suture; whorls about $4^1/_2$, slightly depressed above, especially near the suture, else convexly rounded; colour from yellowish- to dark redbrown, more or less variegated with darker zigzag-markings and a yellowish band at the periphery, often accompanied by a darker zone below. Aperture nearly circular, a little oblique, with a slight angle above, margin white, double, the outer margin rather strongly expanded and slightly reflected, forming a triangular lobe at the body-whorl; this triangle is slightly compressed, with an impressed line on the inner surface. Operculum thick, calcareous, many-whorled.

Diam. 19, alt. 12; apert. alt. et lat. incl. perist. 9 Mill.

Diam. $19^3/_4$, alt. $14^7/_8$; apert. alt. et lat. incl. perist. $9^1/_4$ Mill.

This species is nearly allied to *C. floresianus* v. Mart. (Zool. Ergebn. Reise in Niederl. Ost-Indien, p. 211, Pl. 12, fig. 1—3), but it is smaller, has a darker colour, the umbilicus is narrower and the peristome is much more expanded and even reflected. It has been named by v. MÖLLENDORFF, but as far as I know, he has never described it. I possess specimens received from FRUHSTORFER in 1903, of these one is of much lighter colour. The largest Siboga-specimen is a dead shell, the two other ones have been taken alive.

2. *Cyclotus succinctus* v. Martens.

v. MARTENS. Monatsber. Acad. Berlin, 1864, p. 117.
—— Ostasiatische Landschn. p. 122, Pl. 2, fig. 6.

Stat. 296. Dry Riverbed near Noimini, Timor. 1 Spec.

The only specimen of this land-mollusk is a dead shell. it agrees with var. *major* of v. MARTENS by its size and feeble keel.

## Fam. Hipponycidae.

### **Amalthea** Schumacher.

1. *Amalthea conica* Schumacher.

Schumacher. Essai, p. 181, Pl. 21, fig. 4.
Tryon. Man. of Conch. Vol. VIII, p. 136, Pl. 41, fig. 9—15 (*australis*).

Stat. 9. 7°44′.6 S., 114°42′.6 E. Madura Sea. 353 M. Soft, fine, grey mud. 2 Spec.
Stat. 60. Haingsisi, Samau-island. Reef. 1 Spec.
Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Shore. 3 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom, sand and coral. 1 Spec.
Stat. 125. Sawan, Siau-island. Reef. 7 Spec.
Stat. 142. Laiwui, North coast of Obi Major. Reef. 4 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.
Stat. 213. Saleyer. Reef. 2 Spec.
Stat. 225. South of Lucipara-island. Reef. 7 Spec.

The specimens as usually, are very different in shape and colour, they are more or less elevated and entirely white, more or less radiated with brown, or nearly entirely brown. The specimens from a great depth (Stat. 9) are fixed on a much worn shell of a Gastropod, perhaps a *Tritonidea*, from Stat. 78, on *Strombus urceus* Lin., from Stat. 225 on *Terebra crenulata* Lin., *Strombus urceus* Lin., from Saleyer on large spines of an Echinoderm, probably *Acrocladia*, from Haingsisi on *Cassis vibex* Lin. So it is conspicuous that they have no preference for any group of shells, to fix themselves upon. I can detect no basal shell-plate, but especially the older specimens have made conspicuous scars in the shells on which they live. One rather adult specimen from Saleyer, has in accordance with its abode on a spine, a strongly compressed shape. Some adult specimens have young ones on their backs.

2. *Amalthea Danieli* Crosse.

Crosse. Revue Zool. 1858, p. 161, Pl. 3, fig. 2 (*Capulus*).
—— Journ. de Conch. 1862, p. 19 (*Hipponyx*).
Tryon. Man. of Conch. Vol. VIII, p. 136, Pl. 41, fig. 21, 22.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 260. Near Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.

The specimen from Stat. 51, which is the most characteristic, was affixed on *Gyrineum cuspidatum* Rve, but was easily loosened, leaving a scar. This species has been recorded from New Caledonia, by Crosse, Tryon (l. c.) records no other localities, so it may be new for the archipelago.

3. *Amalthea (Malluvium) lissa* Smith.

Smith. Ann. and Mag. Nat. Hist. Ser. 6, Vol. XIV, 1894, p. 166, Pl. 4, fig. 4—6 (*Capulus*).
—— Ann. and Mag. Nat. Hist. Ser. 7, Vol. XIV, 1904, p. 1.
v. Martens. Beschalte Gastrop. d. deutschen Tiefsee-Exp. 1898—99, p. 117.

THIELE. Beschalte Gastrop. d. deutschen Tiefsee-Exp. 1898—99, p. 165, Pl. 8, fig. 46.
MELVILL. Proc. Mal. Soc. Lond. VII, 1906, p. 81.
SMITH. Proc. Mal. Soc. Lond. VII. 1906, p. 122.

Stat. 12. 7° 15′ S., 115° 15′.6 E. Madura Sea. 289 M. Mud, and broken shells. Many specimens.
Stat. 95. 5° 43′.5 N., 119° 40′ E. Sulu Sea. 522 M. Stony bottom. 19 Spec.
Stat. 105. 6° 8′ N., 121° 19′ E. Sulu Sea. 275 M. Coralbottom. 1 Spec.
Stat. 139. 0° 11′ S., 127° 25′ E. Molucca-Passage. 397 M. Mud, stones and coral. 16 Spec.
Stat. 164. 1° 42′.5 S., 130° 47′.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 204. Between Wowoni and Buton. 75—94 M. Sand with dead shells. 2 Spec.

The specimens from Stat. 12 are so numerous and often form small colonies, that it is useless and nearly impossible to count them; the majority from Stat. 12 has been dredged alive on *Xenophora pallidula* Rve, on a dead *Murex* belonging to or allied to *M. ternispina* Lam., other specimens from the same locality live on stones or fragments of very diversified shells; those from Stat. 95 and 105 are dead shells, those from Stat. 139 are affixed on a dead *Xenophora* and a young dead *Rostellaria*. The specimen from Stat. 164, which should have lived at a depth of 32 M. is very flat and broad, but the sculpture, consisting of more or less irregular growth-striae, and shape of spire agree with typical specimens. Mr. SMITH to whom I had sent this doubtful specimen, pronounced it to be: "probably a dilated variety of *A. lissa*", the specimens from Stat. 204, which are dead shells, are from not more than 94 M. Dr. THIELE (l. c.) was the first to state that the species, according to its anatomy belongs to *Hipponyx* = *Amalthea*. Afterwards MELVILL (l. c.) came to the same conclusion on other grounds, and SMITH (Proc. Mal. Soc. Lond. VII, p. 122) states in a note that Prof. GWATKIN found the radula nearest that of *Amalthea*. MELVILL (l. c.) has erected the subgenus *Malluvium* for this smooth species of *Amalthea*. The Siboga-specimens have no brown colour in the interior of the shells, as far as I could see in loosened ones.

### **Mitrularia** Schumacher.

1. *Mitrularia equestris* Linné.

LINNÉ. Syst. Nat. Ed. XII, p. 1257.
REEVE. Conch. Ic. Vol. XI, Calyptraea, fig. 1.
TRYON. Man. of Conch. Vol. VIII, p. 137, Pl. 41, fig. 25, 26.

Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

var. *tortilis* Reeve.

REEVE. Conch. Ic. Vol. XI, Calyptraea, fig. 2*b*.
TRYON. Man. of Conch. Vol. VIII, p. 138, Pl. 42, fig. 53.

Stat. 225. South Lucipara-island. Reef. 1 Spec.

var. *cicatricosa* Reeve.

REEVE. Conch. Ic. Vol. XI, Calyptraea, fig. 3*a*.
TRYON. Man. of Conch. Vol. VIII, p. 138, Pl. 42, fig. 56.

Stat. 59. Western entrance of Samau-strait. 390 M. Coarse coralsand with small stones. 1 Spec.
Stat. 114. Kwandang-bay-entrance, North Celebes. 75 M. Hard sand, very fine. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.

var. *hipponyciformis* Reeve.

REEVE. Conch. Ic. Vol. XI, Calyptraea, fig. 26.
TRYON. Man of Conch. Vol. VIII, p. 238, Pl. 24, fig. 40, 41.

Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

A most variable species. I have identified the specimens as well as possible, with the aid of the figures of REEVE's monograph. Only the specimen from Stat. 225 contains the soft parts, the other ones are dead shells, which is especially of interest for the specimen from Stat. 59, which probably will not have lived at that great depth.

2. *Mitrularia costifera* n. sp. Pl. XII, fig. 11.

Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.

Shell small, suborbicular, thin, depressedly convex, white; nucleus subcentral, but placed a little at the posterior part, smooth, spiral; a zone around the nucleus is sculptured by fine radiating striae, the remaining part of the surface is sculptured by strong radiating ribs, about 23 in number, separated by rather deep grooves or interstices, about as broad as the ribs; the ribs project at the margin and make it conspicuously denticulate, they are slightly nodulous and waved and are covered, as well as the interstices, with radiating striae. Interior of shell smooth, slightly grooved by the ribs. Cup-shaped lamina much broken.

Long. 9, lat. $9^1/_2$, alt. $3^1/_2$ Mill.

I am not at all proud of this new species, as it is slightly defective, part of the outer shell and of the internal lamina wanting. Moreover I suppose it may be still rather young. As I failed to identify it with any of the known species, I asked the opinion of Mr. E. A. SMITH, who has at his disposal the types of the numerous species described by REEVE; the result was that Mr. SMITH declared it to be new. The most characteristic feature is the presence of comparatively strong ribs, conspicuously surpassing the margin of the shell. The dorsal view calls in mind some flat specimens of *Amalthea conica* Schum.

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## Fam. CAPULIDAE.

### **Crepidula** Lamarck.

1. *Crepidula (Siphopatella) Walchi* Herrmannsen.

HERRMANNSEN in REEVE. Conch. Ic. Vol. I, Crepidula, fig. 17.
TRYON. Man. of Conch. Vol. VIII, p. 130, Pl. 38, fig. 56—58 (*Walshii*).

Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 1 Spec.

This is as far as I am aware the first record from the East Indian Archipelago. TRYON's enumerated localities are Ceylon, Singapore, China Sea, Japan. I can see no differences from my Japanese specimens.

### Capulus Montfort.

1. *Capulus fragilis* Smith.

SMITH. Ann. and Mag. Nat. Hist. Ser. 7, Vol. XIV, 1904, p. 1.

Stat. 85. 0° 36'.5 S., 119° 29'.5 E. Makassar Strait. 724 M. Fine, grey mud. 1 Spec.
Stat. 87. 0° 32' S., 119° 39'.8 E. Makassar Strait. 655 M. Fine, grey mud. 1 Spec.

Both specimens seem to be young, the largest one having only a length of nearly 8 Mill., those described by SMITH of 13 Mill., but the description agrees in every particular, especially the presence of an internal septum, as in the genus Septaria, is very characteristic. The "Investigator"-specimens have been dredged in the Laccadive Sea at 105 fathoms and in the bay of Bengal, at 410 fathoms.

### Thyca H. & A. Adams.

1. *Thyca crystallina* Gould.

GOULD. Proc. Boston Soc. Nat. Hist. II, 1846, p. 161 (*Capulus*).
TRYON. Man. of Conch. Vol. VIII, p. 136, Pl. 41, fig. 18, 19 (*Hipponyx*).
KÜKENTHAL. Abh. Senckenb. Gesellsch. Vol. 24, 1898, p. 9, Pl. 2, fig. 10—12.

Stat. 60. Haingsisi, Samau-island. Reef. 13 Spec., on Linckia.
Stat. 231. Amboina. Reef. 15 Spec. on Linckia.
Stat. 234. Nalahia, Nusa-Laut-island. Reef. 4 Spec., on Linckia.
Stat. 279. Ruma-Kuda-bay, Roma-island. Reef. 3 Spec., on Linckia.
Stat. 301. Pepela-bay, East coast of Rotti-island. Reef. 1 Spec.

For particulars on this species, see the Report on the parasitic Prosobranchia of the Siboga Expedition, Part XLIX[2] of this work.

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## Fam. XENOPHORIDAE.

### Xenophora Fischer de Waldheim.

1. *Xenophora (s. str.) solarioides* Reeve.

REEVE. Conch. Ic. Vol. I, Phorus, fig. 8.
KIENER. Coq. Viv. Vol. X, p. 447, Pl. 44, fig. 3.
TRYON. Man. of Conch. Vol. VIII, p. 159, Pl. 44, fig. 77.

Stat. 64. Kambaragi-bay, Tanah-Djampeah. 32 M. Coral, coralsand. 1 Spec.
Stat. 71. Makassar and surroundings. 27—30 M. Mud, sand with mud, coral. 4 Spec.
Stat. 77. Borneo-bank. 59 M. Fine, grey coralsand. 1 Spec.
Stat. 274. 5° 28'.2 S., 134° 53'.9 E. Near Aru-islands. 57 M. Sand and shells, stones. 2 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 13 Spec.

This species has only been recorded from the Philippines. A very young specimen from Stat. 313, has a nearly smooth base, under the lens a row of beads borders the umbilicus, a few very faint spirals surround it and still fainter growth-striae, elegantly curved, make their appearance, the upper surface is quite covered with small stones and large foraminifera, only the nuclear whorls remain uncovered.

2. *Xenophora corrugata* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1842, p. 163.
—— Conch. Ic. Vol. I, Phorus, fig. 6.
KIENER. Coq. Viv. Vol. X, p. 441, Pl. 8.
TRYON. Man. of Conch. Vol. VIII, p. 159, Pl. 45, fig. 81, 82.

Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 2 Spec.
Stat. 204. Between islands of Wowoni and Buton, northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 2 Spec.

The specimens are rather small, the largest, from Stat. 204, having only a largest diameter of about 35 Mill. without the agglutinated shells and stones, the other one is very young but has already the characteristic sculpture, consisting of rather coarse wrinkles; in the young specimen the umbilicus is still open, in the largest one it is a small perforation.

3. *Xenophora caperata* Philippi.

PHILIPPI. Zeitschr. für Malak. 1851.
KIENER. Coq. Viv. Vol. X, p. 439, Pl. 79, fig. 1.
TRYON. Man. of Conch. Vol. VIII, p. 159, Pl. 44, fig. 78, 79; Pl. 45, fig. 83.

Stat. 204. Between islands of Wowoni and Buton, northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 6 Spec.
Stat. 289. 9°0'.3 S., 126°24'.5 E. Timor Sea. 112 M. Mud, sand and shells. 1 Spec.

This species is very nearly allied to the preceding one, the spiral cords on the base are however developed on a much larger space than in *corrugata*, as may be seen in the quoted figures, and it is chiefly on this character that I have identified the specimens under consideration.

4. *Xenophora pallidula* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1842, p. 162.
—— Conch. Ic. Vol. I, Phorus, fig. 4.
KIENER. Coq. Viv. Vol. X, p. 444, Pl. 54.
TRYON. Man. of Conch. Vol. VIII, p. 160, Pl. 44, fig. 79.

Stat. 12. 7°15' S., 115°15'.6 E. Madura Sea. 289 M. Mud and broken shells. 21 Spec.
Stat. 38. 7°35'.4 S., 117°28'.6 E. Flores Sea. 521 M. Coral. 4 Spec.
Stat. 95. 5°43'.5 N., 119°40' E. Sulu Sea. 522 M. Stony bottom. 2 Spec.
Stat. 139. 0°11' S., 127°25' E. Molucca-Passage. 397 M. Mud, stones and coral. 1 Spec.
Stat. 289. 9°0'.3 S., 126°24'.5 E. Timor Sea. 112 M. Mud, sand and shells. 2 Spec.
Stat. 297. 10°39' S., 123°40' E. Timor Sea. 520 M. Soft, grey mud with brown upper layer. 1 Spec.

The majority of the specimens has the umbilicus not quite closed, partly this may depend on their juvenile state, but in many cases the specimens of the same size are variable in this respect. Generally I have observed that the umbilicus is no reliable character in this genus, that in the majority of young specimens, it exists in such species which have it closed when adult, but that the period of being closed is not the same in one and the same species. As to *X. pallidula*, DUNKER (Index Molluscorum Maris Japonica, 1882, p. 123) has made the same observation, he says: "at contra nostra specimina umbilico angusto perspicuo lamina quidem

columellae semiobtecto instructo sunt". In other respects, especially in sculpture of the base, the specimens perfectly agree with typical ones, received from Japan.

5. *Xenophora gigantea* n. sp. Pl. XIII, fig. 1.

Stat. 38. 7° 35'.4 S., 117° 28'.6 E. Flores Sea. 521 M. Coral. 2 Spec.

Shell large, trochiform, more or less umbilicate, thin, yellowish-white; whorls about 8, nucleus smooth, subsequent whorls slightly convex, with irregular surface, lower ones sculptured with diagonal, undulating wrinkles, which are moderately strong and are crossed by much feebler growth-striae; suture linear, undulate; the upper surface with various objects agglutinated along the suture and at the peripheral keel of last whorl, these objects consist of small stones and shells, which leave however a large part of the shell free, perhaps with exception of the upper whorls, which seem to have been quite covered, but to have lost the foreign bodies. Last whorl sharply carinated, with a rather broad margin, marked by a broad, shallow canal on the upper surface; base concave, chiefly by the declining border, nearly smooth, but marked under the lens with faint growth-striae, which are strongly curved towards the distal zone, moreover very faintly crispate. Umbilicus in one specimen open, pervious, partly covered by the columellar margin, in the other specimen it is closed by a thin lamina, leaving a pit, which is also partly overlapped by the columella. Aperture large, oval, its free margin thin, arcuate, its columellar and basal margins strongly curved, the columellar one thickened and reflected, a thin layer of enamel on the body whorl connects the margins. Operculum corneous, thick, nucleus lateral, with a few coarse and very close-set, undulating striae.

Alt. about 60, diam. 98; apert. lat. 67 Mill.

This species, by the sculpture of the base allied to *X. pallidula* Rve, has a much finer sculpture, indeed it is nearly smooth, moreover it is considerably larger, the shape of the basal surface is much more oval, the whorls are less convex, and much less covered by the foreign bodies, which are mainly smaller, are placed more remote and consequently leave a larger part of the lower whorls free. In this respect (if only seen from above) it has some resemblance with *X. calculifera* Rve., which has however more convex whorls and a totally different sculpture of the base.

6. *Xenophora (Tugurium) exuta* Reeve.

Reeve. Proc. Zool. Soc. Lond. 1842, p. 162.
—— Conch. Ic. Vol. I, Phorus, fig. 7.
Kiener. Coq. Viv. Vol. X, p. 430, Pl. 22, fig. 1.
Tryon. Man. of Conch. Vol. VIII, p. 161, Pl. 46, fig. 90, 91.

Stat. 294. 10° 12'.2 S., 124° 27'.3 E. Timor Sea. 73 M. Soft mud with very fine sand. 10 Spec.

The specimens are young and very thin; the largest has (inclusive the projections at the keel) only a diam. maj. of 55 Mill. Fischer in Kiener's Coq. Viv. (l. c.) states a diameter of 75 and even of 81 Mill., Tryon of $2^3/_4$ inches, corresponding to about 70 Mill. Only 3 of the specimens have agglutinated each one foreign body, consisting in a specimen of a small valve, in the other two of small fragments of *Pelecypoda*.

The species has, as far as I am aware only been recorded from China and Japan.

7. *Xenophora (Tugurium) calculifera* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1842, p. 162.
—— Conch. Ic. Vol. I, Phorus, fig. 1.
KIENER. Coq. Viv. Vol. X, p. 438, Pl. 7, fig. 1.
TRYON. Man. of Conch. Vol. VIII, p. 159, Pl. 44, fig. 75, 76.

Stat. 318. 6° 36'.5 S., 114° 55'.5 E. Java Sea. 88 M. Fine, yellowish-grey mud. 1 Spec.

The spiral sculpture of the base is but faintly developed; this may be due to the youth of the specimen, moreover a large part of the basal surface is broken.

8. *Xenophora (Tugurium) indica* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3575.
REEVE. Conch. Ic. Vol. I, Phorus, fig. 2.
KIENER. Coq. Viv. Vol. X, p. 433, Pl. 9, fig. 1.
TRYON. Man. of Conch. Vol. VIII, p. 161, Pl. 46, fig. 92, 93.

Stat. 204. Between islands of Wowoni and Buton, northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.

The specimen is also very young, the foreign bodies consist of a nearly equal number of Foraminifera and fragments of shells and stones.

9. *Xenophora (Onustus) solaris* Linné.

LINNÉ. Syst. Nat. Ed. XII, p. 1229.
REEVE. Conch. Ic. Vol. I, Phorus, fig. 5.
KIENER. Coq. Viv. Vol. X, p. 428, Pl. 3, fig. 1.
TRYON. Man. of Conch. Vol. VIII, p. 162, Pl. 47, fig. 1, 2.

Stat. 318. 6° 36'.5 S., 114° 55'.5 E. Java Sea. 88 M. Fine, yellowish-grey mud. 3 Spec.

Two of the specimens are very young, measuring without the spines only about 22 and 20 Mill. In this juvenile state, the sculpture of the base, so conspicuous in adult ones, is nearly wanting; it consists of short striae radiating from the umbilicus, crossed by a few (3 or 4) spirals and leaving a large part smooth, unless for very faint, curved, growth-striae, a little more conspicuous at intervals. The third specimen, though not large, is very characteristic.

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## Fam. VANIKORIDAE.

### **Vanikoro** Quoy & Gaimard.

1. *Vanikoro cancellata* Chemnitz.

CHEMNITZ. Conch. Cab. Vol. X, Pl. 165, fig. 1596, 1597.
REEVE. Conch. Ic. Vol. XX, Vanikoro, fig. 1*b*.
TRYON. Man. of Conch. Vol. VIII, p. 67, Pl. 29, fig. 60, 61.

Stat. 125. Sawan, Siau-island. Reef. 1 Spec.

2. *Vanikoro Blainvilleana* Recluz.

RECLUZ. Rev. Zool. Soc. Cuvier. 1845, p. 48.
—— Magazin de Zool. 1849, p. 53, Pl. 131, fig. 2.
TRYON. Man. of Conch. Vol. VIII, p. 68, Pl. 29, fig. 71.

Stat. 90. 1° 17'.5 N., 118° 53' E. Celebes Sea. 281 M. Coral, sand and stones. 1 Spec.

The specimen is very young, white under a brown epidermis. TRYON unites it as a slight modification to *V. ligata* Recl. It is characterized by its strong plication on the upper whorls. It agrees, as well as may be desired of such a small specimen, with the figure of REEVE.

3. *Vanikoro Orbignyana* Recluz var. *tricarinata* Recluz.

RECLUZ in SOWERBY. Thes. Conch. Pl. 482, fig. 24.
TRYON. Man. of Conch. Vol. VIII, p. 70, Pl. 29, fig. 92.

Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.

The only specimen is strongly depressed. REEVE considers this form to be a variety of *V. Cumingiana* Reeve, which is a synonym of *V. Orbignyana*.

4. *Vanikoro Recluziana* Adams & Angas.

ADAMS & ANGAS. Proc. Zool. Soc. Lond. 1863, p. 424.
TRYON. Man. of Conch. Vol. VIII, p. 70, Pl. 29, fig. 87.

Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom, sand and coral. 1 Spec.

I cannot distinguish the only specimen from the typical ones described by ADAMS and ANGAS, from New South Wales. As it is young, it might be that adult specimens show specific differences.

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Fam. NATICIDAE.

**Natica** Adanson.

1. *Natica zebra* Lamarck.

LAMARCK. An. s. vert. Ed. Desh. Vol. VIII, p. 643.
RUMPH. Amb. Rariteitkamer, p. 76, Pl. 22, fig. G?
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 18, Pl. 2, fig. 13, 14.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 53.
TRYON. Man. of Conch. Vol. VIII, p. 16, Pl. 2, fig. 32.

Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 1 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Reef. 1 Spec.

Some authors are in doubt if the figure of RUMPH belongs to this species, his description is short and may be applied to more than one species: "Sommige zwart, sommige vaal, beide met witte slangetjes geschildert". Subsequent authors describe this shell as white with yellow or brown streaks.

2. *Natica mozaica* Sowerby.

SOWERBY. Thes. Conch. Vol. V, Natica, p. 92, Pl. IX, fig. 133, 134.
TRYON. Man. of Conch. Vol. VIII, p. 19, Pl. 3, fig. 51, 52.

Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

The Siboga-specimen agrees in most parts with SOWERBY's description and figure, but the umbilicus is not so quite covered, as it ought to be, according to the figure of the front view. This may be due to the youth of the specimen, or the figure may be less accurate. Some doubt remains about this identification.

3. *Natica chinensis* Lamarck.

LAMARCK. An. s. vert. Ed. Desh. Vol. VIII, p. 644.
RUMPH. Amb. Rariteitkamer, p. 76, Pl. 22, fig. C.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 19, Pl. 2, fig. 15—18.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 182.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 80. Borneo-bank. 50—40 M. Fine coralsand. 1 Spec.

In the specimen from Stat. 43, the colour-pattern has a tendency to form brown streaks, but shape and sculpture of the shell and the funiculum are the same, that from Stat. 47 is very young with only 2 rows of brown spots.

4. *Natica mahesiensis* Dufo.

DUFO. Ann. Sciences. Nat. Vol. XIV, 1840, p. 193.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 121, Pl. 17, fig. 7.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 58 (*maheense*).
TRYON. Man. of Conch. Vol. VIII, p. 20, Pl. 3, fig. 56 (*maheensis*).

Stat. 260. Near Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 2 Spec.

5. *Natica arachnoidea* Gmelin.

GMELIN. Syst. Nat. p. 3674.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 25, Pl. 3, fig. 18, 19; Pl. 15, fig. 18.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 56 (*Raynaudiana*).
TRYON. Man. of Conch. Vol. VIII, p. 20, Pl. 3, fig. 57 (*Raynoldiana*).

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 3 Spec.

I have followed the views of PHILIPPI and other authors, in applying the name *arachnoidea* for this species, this has been done in recent time by HIDALGO (Cat. de los Mol. Test. de las islas Filipinas, Joló y Marianes, 1904—05, p. 157).

6. *Natica solida* Blainville.

BLAINVILLE. Manuel de Malac. Pl. 36*bis*, fig. 8.
RUMPH. Amb. Rariteitkamer, p. 76, Pl. 22, fig. E.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 27, Pl. 3, fig. 12, 23 (*cinnamomea*).

REEVE. Conch. Ic. Vol. IX, Natica, fig. 71.
TRYON. Man. of Conch. Vol. VIII, p. 45, Pl. 20, fig. 98.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 1 Spec.
Stat. 80. Borneo-bank. From 40—50 M. Fine coralsand. 1 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 2 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The specimens from Stat. 258 are the only ones which have been collected alive, with the operculum, which is calcareous, as has been stated by v. MARTENS (RUMPHIUS Gedenkboek, Moll. p. 6). MENKE (Syn. meth. Mollusc. Ed. alt. 1830, p. 47) has not described it, but locates it in his Section B "Ventricoso-globosae; opercŭlo (in omnibus?) corneo". TRYON (l. c.) locates it amongst the species with corneous operculum. As MENKE has not described his species I have applied BLAINVILLE's name, which has priority, though he gives no more description than MENKE. Perhaps the name *lupinus* of DESHAYES (An. s. vert. Ed. II, Vol. VIII, p. 648) will be the eldest name accompanied by a description.

7. *Natica ala papilionis* Chemnitz, var. *articulata* Philippi.

PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 119, Pl. 17, fig. 4, 8.

Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

PHILIPPI has separated this form as a valid species. The Siboga-specimen exhibits all the characters, but I think they are only varietal. TRYON (Man. of Conch. Vol. VIII, p. 21), quotes it simply as a synonym. The specimen is about as small as PHILIPPI's fig. 8, and possesses the fine, sulcated operculum.

8. *Natica euzona* Recluz.

RECLUZ. Proc. Zool. Soc. Lond. 1843, p. 204.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 147.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 67 *c* (*picta* pars).
TRYON. Man. of Conch. Vol. VIII, p. 22 (*picta* pars).

Stat. 47. Bay of Bima, near South fort. Shore. 1 Spec.
Stat. 51. Molo-strait. 69—91 M. Fine, grey sand, coarse sand with shells and stones. 6 Spec.
Stat. 60. Haingsisi, Samau-island. Reef. 1 Spec.
Stat. 260. Nuhu Jaan, Kei-islands. 90 M. Sand. coral and shells. 2 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

Many authors have considered *N. euzona* to be merely a variety or even a synonym of *N. picta* Recluz; as the Siboga-specimens belong without exception to *euzona*, I have applied that name. Anatomy perhaps will produce distinguishing characters.

9. *Natica marochiensis* Gmelin.

GMELIN. Syst. Nat. p. 3673.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 52.
TRYON Man. of Conch. Vol. VIII, p. 22, Pl. 5, fig. 74, 75.

Stat. 37. Sailus Ketjil, Paternoster-islands. Up to 27 M. Coral and coralsand. 1 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 277. Kulewatti-bay, Dammer-island. 44 M. Sand. 1 Spec.

These specimens are small and those from Stat. 37 and 53 are moreover bleached, consequently I cannot make out to which variety they belong; the majority of specimens belongs to:

var. *tessellata* Philippi.

PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 48, Pl. 7, fig. 7.
TRYON. Man. of Conch. Vol. VIII, p 23, Pl. 5, fig. 79 (*lurida*).

Stat. 4. Djangkar (Java). 9 M. Coralsand. 2 Spec.
Stat. 33. Bay of Pidjot, Lombok. Up to 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 3 Spec.
Stat. 116. West of Kwandang-bay entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 261. Elat, West coast of Great-Kei-island. 27 M. Mud. 1 Spec.

As the views of authors about *N. marochiensis*, its synonyms and varieties are very different, I have applied the name given by PHILIPPI to a shell with characteristic colour-pattern, some specimens are partly of a brownish ground-colour.

10. *Natica nebulosa* n. sp. Pl. XIII, fig. 2.

Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

Shell conically globose, thin, smooth, shining, with traces of a thin epidermis towards the aperture; whorls $5^1/_2$, convex. The nuclear and part of subsequent whorls are nearly smooth, but have a few radiating striae and the suture is bordered by a spiral ridge. The last $2^1/_2$ whorls are separated by a deep suture, with radiating striae, gathered puckerings below it. Moreover the shell is covered with very fine growth-striae and a few scattered spirals, which are only visible under a strong lens. Colour very light lilac, with a narrow white zone at the suture, and a broader one round the umbilicus; the lilac zone of the shell has very faint rufous-brown streaks, which are more or less waved, forming at the shoulder of last whorl, a row of arrow-headed spots and a row of squarely-oblong blotches, just above the umbilical white zone. Aperture oblong-ovate, rather angular at the upper corner; right margin thin, curved, columellar margin nearly straight, but slightly concave, its upper part reflected on the body whorl, tongue-shaped just above the umbilicus, of which only a small, deep pit of the upper part remains, the umbilicus being nearly quite filled by a white, porcellaneous funiculum, with only a groove at its left side, originating from the umbilical pit, becoming shallow towards the base. Operculum calcareous, for a large part smooth and shining, near the nuclear part thickened by a dull layer, bordered at the left by a comma-shaped rim; right margin bordered by 3 raised rims, of which the outermost is narrow and not strongly developed, especially towards the base of the aperture; the median rim is rather narrow, much raised, bordered externally by a shallow, internally by a deeper groove; internal rim the broadest, separated from the rest of the operculum by a deeply incised groove.

Alt. $15^1/_2$, lat. $14^1/_2$; apert. alt. $12^1/_2$, lat. 8 Mill.

If this species is seen without the operculum, it might be considered to be a variety of the polymorph *N. marochiensis*, but its umbilicus is much more filled by the funiculum. The operculum is quite different from that of *marochiensis* described by WATSON (Challenger-Gastropoda, p. 434) and from specimens which I could compare.

11. *Natica strongyla* Melvill.

MELVILL. Memoirs and Proc. Manch. Lit. and Phil. Soc. Vol. 41, 1897, N° 7, p. 11, Pl. 6, fig. 20.

Stat. 98. 6° 9′ N., 120° 21′ E. Sulu Sea. 350 M. Sand. 1 Spec.

The specimen is a young, empty shell; it is not probable that this species with its prominent colour-markings, has lived at so greath a depth.

12. *Natica asellus* Reeve.

REEVE. Conch. Ic. Vol. IX, Natica, fig. 136.
TRYON. Man. of Conch. Vol. VIII, p. 24, Pl. 6, fig. 3, 4.

Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 1 Spec.

The umbilicus of the Siboga-specimen is not quite closed and the row of small dots between the two blue-black bands is wanting. I think these differences are of too little importance, to be in doubt about the identity.

13. *Natica atypha* Watson.

WATSON. Report Voy. Challenger. Zool. Vol. XV, Part 42, Gaptrop. p. 438, Pl. 27, fig. 2.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 5 Spec.

The specimens are dead, bleached shells.

14. *Natica colliei* Recluz.

RECLUZ. Proc. Zool. Soc. Lond. 1843, p. 206.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 70, Pl. 11, fig. 6.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 112.
TRYON. Man. of Conch. Vol. VIII, p. 26, Pl. 7, fig. 34.

Stat. 99. North-Ubian, Sulu-archipelago. 16—23 M. Lithothamnion-bottom. 1 Spec.

15. *Natica buriasensis* Recluz.

RECLUZ. Proc. Zool. Soc. Lond. 1843, p. 212 (*buriasiensis*).
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 133, Pl. 18, fig. 17.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 128.
TRYON. Man. of Conch. Vol. VIII, p. 29, Pl. 8, fig. 58.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 2 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 3 Spec
Stat. 142. Laiwui, North coast of Obi Major. Reef. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 2 Spec.
Stat. 311. Sapeh-bay, East coast of Sumbawa. Up to 36 M. 1 Spec.

The specimens are smaller than they ought to be according to the descriptions and figures, but agree in every other respect.

16. *Natica lineata* Lamarck.

LAMARCK. An. s. vert. Ed. Desh. Vol. VIII, p. 640.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 11, Pl. 1, fig. 9.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 24.
TRYON. Man. of Conch. Vol. VIII, p. 29, Pl. 8, fig. 57.

Stat. 296. Noimini, South coast of Timor. 8—36 M. Sandy mud. 1 Spec.

17. *Natica gracilis* Recluz.

RECLUZ. Journ. de Conch. Vol. I, 1850, p. 387, Pl. 14, fig. 11.
TRYON. Man. of Conch. Vol. VIII, p. 29, Pl. 8, fig. 59.

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.
Stat. 47. Bay of Bima. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 142. Laiwui, North coast of Obi Major. Reef. 1 Spec.

In the specimen from Stat. 142 the chestnut lines are wanting, but otherwise the shell agrees with typical ones, it may be bleached and is not quite adult; that from Stat. 4 is a fresh specimen, with a brownish epidermis and operculum; the latter is calcareous, white, with 7 deep grooves, separating rather broad lirae, columellar margin of the operculum notched, partly by the terminations of the grooves, partly by 2 shorter grooves, running at a little distance from the margin.

18. *Natica rufa* Born.

BORN. Testacea Mus. Vindobon. p. 398, Pl. 17, fig. 3, 4.
RUMPH. Amb. Rariteitkamer, p. 76, Pl. 22, fig. D.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 14, Pl. 2, fig. 1, 2.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 70.
TRYON. Man. of Conch. Vol. VIII, p. 29, Pl. 9, fig. 62, 63.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud. 1 Spec.
Stat. 279. Rumah-Kuda-bay, Roma-island. 36 M. Mud and sand. 2 Spec.

The operculum has been described with a few words by RUMPH, it is thick, especially near the nucleus, where both specimens from Stat. 279 have a knob, resembling a small agglutinated pebble; the whole margin is crenulate, the external rim squamose, and separated from a very

broad rim, by a large groove, with two intermediate rims, which are also crenulate; at the proximal side of the broad rim runs a groove with a small rim therein.

19. *Natica helvacea* Lamarck.

LAMARCK. An. s. vert. Ed. Desh. Vol. VIII, p. 637.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 21, Pl. 3, fig. 1, 2; Pl. 8, fig. 5 (*globosa*).
REEVE. Conch. Ic. Vol. IX, Natica, fig. 46 (*globosa*).
TRYON. Man. of Conch. Vol. VIII, p. 32, Pl. 9, fig. 64.

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 2 Spec.
Stat. 261. Elat, West coast of Great-Kei-island. 27 M. Mud. 2 Spec.

The specimens are young.

20. *Natica crassa* n. sp. Pl. XIII, fig. 3.

Stat. 58. Seba, Savu. Up to 27 M. Sand. 1 Spec.

Shell small, subglobose, with blunt spire, thick, shining, with rather strong growth-striae, strongest below the suture, and microscopic waved spirals. Whorls $4^1/_2$, slightly convex, especially the upper ones, which are separated by a conspicuous suture, which is shallower in the last whorl; this suture strongly descends towards the aperture, and on this part the growth-striae are very strong and crowded; just behind the aperture the shell is slightly contracted. Colour white, with a large, irregular, yellowish-brown zone near the median part of last whorl, this zone encloses irregular white spots. Aperture small, oval, with a blunt angle above; right margin thick, curved, rounded below; columellar margin nearly straight with a callous pad at the upper part and a thick, subtriangular, porcellaneous deposit, forming in part the end of the funiculum and covering the upper part of the umbilicus, which is narrow interiorly, but apparently pervious; a deeply incised rather broad groove, separates the funiculum from the bodywhorl, base of the columella joined to the thick, rounded basal margin of aperture by an angle which produces a short tongue-shaped layer, just below the umbilical groove. Interior of aperture, smooth, white.

Operculum wanting, but the columella has a slight groove, indicating the presence of a calcareous operculum.

Alt. $7^1/_2$, lat. $8^1/_2$; apert. alt. $5^1/_4$, lat. 3 Mill.

This species may be recognized by its thick shell, by the strongly descending suture, the strong striae near the aperture, which is unusually small. I know no nearly allied species.

21. *Natica supraornata* n. sp. Pl. XIII, fig. 4.

Stat. 274. 5° 28′.2 S., 134° 53′.9 E. Near Aru-islands. 57 M. Sand and shells, stones. 2 Spec.

Shell small, depressedly subglobose, with blunt spire; rather thick, smooth, whorls $3^1/_2$, the nuclear one convex, the remaining nearly flat; sculpture consisting of very fine growth-striae, more conspicuous near the suture and towards the aperture. Colour yellowish-white, with a collar

of chestnut spots of an irregular shape, but having a tendency to be triangular below the suture and on part of the penultimate whorl; these spots enclose irregular whitish spots. Aperture oval, with rounded basal and outer margin, columellar margin nearly straight; upper angle of aperture blunt, with a thick layer of enamel on the body whorl, forming a rim near the angle of aperture and connected with the funicular tongue-shaped pad, which fills a large part of the umbilicus, this latter seems to be pervious, and is formed below of a deep, large groove round the funiculum, the whole columellar part is light chestnut (perhaps bleached).

Operculum wanting, probably calcareous.

Alt. 6, lat. $6^2/_5$; apert. alt. $4^1/_2$, lat. 3 Mill.

This shell is remarkable for its brown columella and the blotches near the suture. It may be allied to *N. pseustes* Watson (Challenger Gastrop. p. 44, Pl. 27, fig. 3) but besides the collar, I see no brown markings, as in that species and the umbilicus seems to be different, for Watson describes it as disappearing behind the pillar callus, and I can introduce a fine needle at a relatively considerable depth.

22. *Natica simplex* n. sp. Pl. XIV, fig. 1.

Stat. 310. 8° 30′ S., 119° 7′.5 E. Flores Sea. 73 M. Sand with few pieces of dead coral. 1 Spec.

Shell conically globose, rather thin, smooth and shining. Whorls $5^1/_2$ moderately convex, forming a rained spire. Sculpture consisting of very fine growth-striae, stronger towards the upper suture of each whorl, crossed by microscopic, wavy, spiral striae. Colour of shell light yellowish-redbrown, with a narrow white zone below the suture, and a large one occupying the base. Suture of last whorl gradually descending towards the aperture, upper margin of last whorl appressed on the bodywhorl. Aperture ovate, with a blunt angle above, right margin regularly curved, more rounded below and passing imperceptibly into the basal margin; columellar margin nearly straight, with a porcellaneous pad above on the bodywhorl, slightly reflected over the umbilicus, which is rather large, pervious, with scarcely any trace of a funiculum, consequently the columellar margin is only inconspicuously thickened, on the place where the funiculum should terminate. Interior of aperture brownish.

Operculum wanting, probably calcareous, for the columella has a slight ridge.

Alt. $14^1/_2$, lat. 14; apert. alt. $10^1/_2$, lat. 7.

This species is of a very simple character, in its umbilicus it resembles *N. semisulcata* Gray, by the wanting funiculum.

23. *Natica (Neverita)* sp.

Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 1 Spec.

A probably young, bleached shell belongs to the subgenus *Neverita*, I cannot identify it with any described species, but it is not in sufficient good condition, to describe it as new.

24. *Natica (Lunatia) simulans* Smith.

Smith. Ann. and Mag. of Nat. Hist. Ser. 7, Vol. XVIII, 1906, p. 173.

Stat. 52. 9° 3'.4 S., 119° 56'.7 E. Savu Sea. 959 M. Globigerine ooze. 1 Spec.
Stat. 212. 5° 54'.5 S., 120° 19'.2 E. Banda Sea. 462 M. Fine grey and green. mud. 1 Spec.
Stat. 286. 8° 50'.2 S., 127° 2'.2 E. Timor Sea. 883 M. Mud. 1 Spec.

The specimens are young, the largest having only a diameter of 10 Mill., whereas the smallest specimen recorded by SMITH, has a diameter of 21 Mill. As the specimens have been compared by the author, I am not in doubt about the identification.

25. *Natica (Lunatia) faba* n. sp. Pl. XIII, fig. 5.

Stat. 88. 0° 34'.6 N., 119° 8'.5 E. Makassar Strait. 1301 M. Fine grey mud. 1 Spec.

Shell small, conically subglobose, with blunt (eroded) spire, thin, nearly smooth, but with very fine growth-striae; white under an olive epidermis. Whorls about $3^1/_2$, nucleus wanting, remaining whorls moderately convex, separated by a canaliculate suture, last whorl regularly rounded. Aperture oblong-oval, outer and basal margins regularly curved, columellar margin concave, its upper part forming on the left side a thick layer of enamel on the bodywhorl, becoming narrow towards the median part, where it partly covers the umbilicus and is again thickened and reflected in joining the basal margin. Umbilicus narrow, so much covered, as to leave only a narrow slit. No funiculum. Operculum corneous.

Alt. $5^1/_2$, lat. $4^3/_4$; apert. alt. $3^3/_5$, lat. $2^1/_4$ Mill.

This species is allied to the preceding one, but is more oval, has a smaller umbilicus, a canaliculate suture and the puckerings below the suture, which are present in the specimens of *N. simulans* Smith of the same size, are wanting. It has no juvenile appearance.

26. *Natica (Mamma) aurantia* Lamarck.

LAMARCK. An. s. vert. Ed. Desh. Vol. VIII, p. 632.
RUMPH. Amb. Rariteitkamer, p. 76, N° 7c.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 34, Pl. 4, fig. 13, 14.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 20.
TRYON. Man. of Conch. Vol. VIII, p. 42, Pl. 15, fig. 39.

Stat. 80. Borneo-bank. 40—50 M. Fine coralsand. 1 Spec.

var. *Mittrei* Hombron & Jacquinot.

HOMBRON & JACQUINOT. Voy. Astrol. & Zel. p. 65.

Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 1 Spec.

Both specimens are young, that identified as var. *Mittrei* has the umbilicus not quite filled.

var. *straminea* Recluz.

RECLUZ. Proc. Zool. Soc. Lond. 1843, p. 211.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 113, Pl. 16, fig. 3.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 32 (var. *lutea* s. *straminea*).
TRYON. Man. of Conch. Vol. VIII, p. 42, Pl. 15, fig. 40.

Stat. 37. Sailus Ketjil, Paternoster-islands. Up to 27 M. Coral and coralsand. 1 Spec.
Stat. 169. Atjatuning, West coast of New Guinea. Reef. 1 Spec.

Stat. 172. Between Gisser and Ceram-Laut. Reef. 7 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 2 Spec.
Stat. 279. Roma. Reef. 1 Spec.

In accordance with the majority of authors I have united this form to *N. aurantia*.

27. *Natica (Mamma) powisiana* Recluz.

RECLUZ. Proc. Zool. Soc. Lond. 1843, p. 210.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 46, Pl. 7, fig. 4.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 22.
TRYON. Man. of Conch. Vol. VIII, p. 42, Pl. 15, fig. 42.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 71. Makassar. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.

The specimens are young, those from Stat. 47 and 116 are in fresh condition, with the thin yellowish operculum.

28. *Natica (Mamma) suffusa* Reeve.

REEVE. Conch. Ic. Vol. IX, Natica, fig. 129.
TRYON. Man. of Conch. Vol. VIII, p. 44, Pl. 19, fig. 87.

Stat. 37. Sailus Ketjil, Paternoster-islands. Up to 27 M. Coral and coralsand. 1 Spec.
Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 1 Spec.
Stat. 80. Borneo-bank. 50—40 M. Fine coralsand. 1 Spec.

Unfortunately the only specimen from Stat. 80 is an empty shell. It agrees in every respect with the figure and description of REEVE. I think TRYON was quite wrong in suggesting that it should be a variety of *N. mamilla* Lin., it is sufficiently distinct by its apex, umbilicus and colour. The locality recorded by the authors quoted above is New-Ireland. The specimens from Stat. 37 and 64 are still more bleached, the violet colour being only perceptible on the spire.

29. *Natica (Mamma) mamilla* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 776, N$^0$ 627.
RUMPH. Amb. Rariteitkamer, p. 76, Pl. 22, fig. F.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 31, Pl. 4, fig. 7, 8.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 27.
TRYON. Man. of Conch. Vol. VIII, p. 49, Pl. 16, fig. 46.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 86. Dongala, Palos-bay, Celebes. 36 M. Fine, grey mud. 3 Spec.
Stat. 174. Waru-bay, North coast of Ceram. Reef. 1 Spec.
Stat. 231. Amboina. 40 M. Coralsand. 2 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.
Stat. ? 3 Spec.

One specimen from Stat. 86, though about fullgrown, has the umbilicus still open, but else it is quite typical.

30. *Natica (Mamma) flemingiana* Recluz.

RECLUZ. Proc. Zool. Soc. Lond. 1843, p. 209.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 126, Pl. 18, fig. 7.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 80.
TRYON. Man. of Conch. Vol. VIII, p. 50, Pl. 16, fig. 51.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 1 Spec.

A young, slightly broken, dead shell, sufficiently agreeing with the quoted figures.

31. *Natica (Mamma) albumen* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 776, N$^0$ 626.
RUMPH. Amb. Rariteitkamer, p. 76, Pl. 22, fig. B.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 29, Pl. 4, fig. 3, 4.
REEVE. Conch Ic. Vol. IX, Natica, fig. 31.
TRYON. Man. of Conch. Vol. VIII, p. 47, Pl. 21, fig. 5.

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.

v. MARTENS locates this species in the subgenus *Neverita*; I have followed other authors f. i. MELVILL, who (Proc. Zool. Soc. 1901, p. 359) mentions it as *Mamma*.

32. *Natica (Mamilla) melanostoma* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3674.
RUMPH. Amb. Rariteitkamer, p. 76, N$^0$ VII*b*.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 30, Pl. 4, fig. 5, 6, 15, 16.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 78.
TRYON. Man. of Conch. Vol. VIII, p. 50, Pl. 21, fig. 13, 14; Pl. 22, fig. 21.

Stat. 80. Borneo-bank. 40—50 M. Fine coralsand. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.
Stat. 164. 1°42′.5 S., 130°47′.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 172. Gisser. Reef. 2 Spec.

var. *fibrosa* Souleyet.

SOULEYET. Voy. Bonite. p. 581, Pl. 35, fig. 8—10.
TRYON. Man. of Conch. Vol. VIII, p. 51, Pl. 21, fig. 17.

Stat. 33. Bay of Pidjot, Lombok. Up to 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 50. Bay of Badjo, west coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.

33. *Natica (Mamilla) melanostomoides* Quoy & Gaimard.

QUOY & GAIMARD. Voy. de l'Astrolabe. Vol. II, p. 229, Pl. 66, fig. 4—8.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 58, Pl. 9, fig. 5.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 101.
TRYON. Man. of Conch. Vol. VIII, p. 50, Pl. 21, fig. 16; Pl. 22, fig. 21 (*melanostoma* var.).

Stat. 47. Bay of Bima. 55 M. Mud with patches of fine coralsand. 2 Spec.
Stat. 71. Makassar. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 1 Spec.

PHILIPPI and REEVE have held this species separate, TRYON unites it to the preceding species. TROSCHEL (Gebiss der Schnecken, p. 183) found no valuable differences between the radulae, but conchologically the species is easily recognizable.

34. *Natica (Mamilla) simiae* Deshayes.

DESHAYES in Lamarck. An. s. vert. Ed. Desh. Vol. VIII, p. 652.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 35, Pl. 4, fig. 17.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 76.
TRYON. Man. of Conch. Vol. VIII, p. 51, Pl. 21, fig. 19, 20.

Stat. 66. Bank between Bahuluwang and Tambolungan. 8—10 M. Dead coral. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 279. Rumah-Kuda-bay, Roma-island. 36 M. Mud and sand. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The specimens are small, probably young, they may be easily recognized by the waved streaks.

35. *Natica (Mamilla) filosa* Sowerby.

SOWERBY in Reeve. Conch. Ic. Vol. IX, Natica, fig. 72.
TRYON. Man. of Conch. Vol. VIII, p. 51, Pl. 22, fig. 22.

Stat. 33. Bay of Pidjot, Lombok. Up to 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand coral and mud. 1 Spec.

The specimens are young but easily recognizable by the spiral striae.

36. *Natica (Mamilla) maura* Bruguière.

BRUGUIÈRE. Encycl. Meth. p. 453, fig. 4*a*, *b*.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Natica, p. 58, Pl. 9, fig. 6.
REEVE. Conch. Ic. Vol. IX, Natica, fig. 25.
TRYON. Man. of Conch. Vol. VIII, p. 51, Pl. 22, fig. 24.

Stat. 47. Bay of Bima. 55 M. Mud with patches of fine coralsand. 1 Spec.

One very young specimen.

37. *Natica (Amauropsis) apora* Watson.

WATSON. Voy. of H. M. S. Challenger, Zoology, Vol. XV, Part 42, p. 454, Pl. 27, fig. 11.

Stat. 48. 8°4'.7 S., 118°44'.3 E. Flores Sea. 2060 M. Fine grey mud, partially green. 1 Spec.
Stat. 52. 9°3'.4 S., 119°56'.7 E. Savu Sea. 959 M. Globigerina ooze. 1 Spec.
Stat. 76. 4°22'.1 S., 118°16'.9 E. Makassar Strait. 2029 M. Fine grey mud. 3 Spec.
Stat. 271. 5°46'.7 S., 134°0' E. Arafura Sea. 1788 M. Bluish green mud of a uniform appearance. 2 Spec.
Stat. 300. 10°48'.6 S., 123°23'.1 E. Timor Sea. 918 M. Fine, grey sand. 2 Spec.

The specimen from Stat. 48 is much larger than WATSON's figure, its altitude being 27 Mill.; one specimen from Stat. 271 has the umbilicus not quite closed, but as the columellar

layer is slightly damaged, this seems to be no difference of any importance; a specimen from Stat. 300 the only one that has been collected alive, has a golden-yellow operculum.

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Moreover there are several specimens of *Natica*, belonging to different subgenera, which are young and in bad condition, so I could not identify them, and even if afterwards one or two might prove to be new, I think it is not advisable to describe new species on such poor specimens, in a genus where the species seldom have prominent characters

### **Sigaretus** Lamarck.

1. *Sigaretus linneanus* Recluz.

RECLUZ in Chenu. Ill. Conch. Vol. III, Sigaretus, Pl. 1, fig. 4.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. VI, Sigaretus, p. 37, Pl. 9, fig. 2, 5.
TRYON. Man. of Conch. Vol. VIII, p. 59, Pl. 25, fig. 89, 90.

Stat. 285. South coast of Timor. 34 M. On the Limit between mud and coral. Lithothamnion. 1 Spec.
Stat. 294. South coast of Timor. 73 M. Soft mud with very fine sand. 1 Spec.

The specimen from Stat. 285 is very small and covered by a brown epidermis. I can however see nothing else in it, but a young specimen of *S. linneanus* Recl.

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## Fam. MARSENIIDAE Bergh.

### **Marsenia** Leach.

1. *Marsenia perspicua* Linné.
2. *Marsenia Sibogae* Bergh.

### **Chelyonotus** (Swainson) Bergh.

1. *Chelyonotus Semperi* Bergh.

For this family see appendix by Prof. R. BERGH in Part I of this publication.

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## Fam. SOLARIIDAE Chemn.

### **Solarium** Lamarck.

1. *Solarium perspectivum* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 757, N° 503.
RUMPH. Amb. Rariteitkamer, p. 91, Pl. 27, fig. L.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Solarium, p. 27, Pl. 4, fig. 6 (*incisum*).
REEVE. Conch. Ic. Vol. XV, Solarium, fig. 11.
TRYON. Man. of Conch. Vol. IX, p. 8, Pl. 2, fig. 18, 19.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 1 Spec.
Stat. 47. Bay of Bima. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 205. Lohio-bay, Buton-strait. 22 M. Sandy mud. 1 Spec.
Stat. 231. Amboina. Reef. 2 Spec.

2. *Solarium modestum* Philippi.

Philippi. Zeitschr. für Malakoz. 1848, p. 171.
—— Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Solarium, p. 15, Pl. 3, fig. 1.
Reeve. Conch. Ic. Vol. XV, Solarium, fig. 12.
Tryon. Man. of Conch. Vol. IX, p. 9, Pl. 2, fig. 22, 23.

Stat. 4. Djankar (Java). 9 M. Coarse sand. 1 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 51. Madura-bay. 69—91 M. 1 Spec.
Stat. 58. Seba, Savu. Up to 27 M. Sand. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The specimens are young; but well characterized by the white, crenulate umbilical rim.

3. *Solarium* sp.

Stat. 45. 7° 24′ S., 118° 15′.2 E. Flores Sea. 794 M. Fine grey mud. 1 Spec.
Stat. 95. 5° 43′.5 N., 119° 40′ E. Sulu Sea. 522 M. Stony bottom. 2 Spec.

The specimens are young and in very bad condition, too bad to identify them. I think they will not have lived at these great depths.

4. *Solarium (Philippia) hybridum* Linné.

Linné. Syst. Nat. Ed. X, p. 757, N° 504.
Kiener. Coq. Viv. Vol. IX, Solarium, p. 7, Pl. 3, fig. 5.
Philippi. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Solarium, p. 14.
Reeve. Conch. Ic. Vol. XV, Solarium, fig. 21.
Tryon. Man. of Conch. Vol. IX, p. 14, Pl. 5, fig. 61, 62.

Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion, sand and coral. 1 Spec.
Stat. 248. Rumah Lusi, North point of Tiur-island. Up to 36 M. 1 Spec.

Philippi has not separated this species from the next one.

5. *Solarium (Philippia) cingulum* Kiener.

Kiener. Coq. Viv. Vol. IX, Solarium, p. 6, Pl. 3, fig. 6.
Reeve. Conch. Ic. Vol. XV, Solarium, fig. 19.
Tryon. Man. of Conch. Vol. IX, p. 15, Pl. 5, fig. 63, 64.

Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.
Stat. 311. Sapeh-bay, East coast of Sumbawa. Up to 36 M. Mud and sand. 1 Spec.

var. *subconcolor* v. Martens.

v. Martens. Beitr. zur Molluskenfauna der Insel Mauritius. Moll. p. 290.
Kiener. Coq. Viv. Vol. IX, Solarium, Pl. 3, fig. 5*a* (*hybridum* var.).
Philippi. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Solarium, Pl. 2, fig. 14, 15.

Stat. 172. Gisser. Reef. 1 Spec.

This specimen perfectly agrees with the figure.

## Fluxina Dall.

1. *Fluxina marginata* n. sp. Pl. XIV, fig. 2.

Stat. 241. 4° 24'.3 S., 129° 49'.3 E. Banda Sea. 1570 M. Dark sand with small stones. 2 Spec.

Shell whitish, thin, very depressed, conic, sharply keeled at the periphery, postnuclear whorls about 5, spirally divided into 2 parts, convex above but concave if taken as a whole, nucleus umbilicate; sculpture consisting of very faint spiral striae, crossed by stronger, undulate, riblike, rather distant ones, with faint growth-striae in the interstices; these riblike striae are less conspicuous on the last whorl; the lower part of each whorl has the appearance of a broad margin, slightly concave above, separated from the upper part of each whorl, by a kind of spiral rib, which is slightly crenulated, this marginal part is sculptured by rather conspicuous spiral and stronger, oblique, but nearly straight, riblike radiating striae, which on the upper part make the keel slightly crenulate (on the largest specimen the keel is smooth, on account of the less conspicuous sculpture); basal part of last whorl convex, with a few more or less conspicuous spiral striae around the umbilicus, and faint, strongly curved, radiating striae; margin separated from the central part by a deep groove, with about 7 spirals and faint growth-striae. Umbilicus large, pervious, scalar, bordered by a strong rib which is surrounded by a deep groove, umbilical wall perpendicular. Aperture rhombic, with convex upper, outer and basal margins; keel protracted in a claw in the younger specimen, columellar margin excavated, slightly thickened, angular below near the umbilical keel, and forming there a somewhat tongue-shaped triangle.

Alt. $3^3/_4$, lat. $8^1/_4$; apert. alt. $1^3/_4$, lat. $2^1/_2$ Mill.

Alt. $3^1/_2$, lat. 8; apert. alt. $1^3/_7$, lat. $2^3/_4$ Mill.

This is the second species of *Fluxina* from the Indian Ocean, quite different from the described species, by the broad margin at the periphery; the claw-like angle of the aperture and the umbilical rib, have induced me to locate it in this genus.

2. *Fluxina trochiformis* n. sp. Pl. XIV, fig. 3.

Stat. 178. 2° 40' S., 128° 37'.5 E. Ceram Sea. 835 M. Blue mud. 1 Spec.

Shell white, thin, conic, sharply keeled, whorls about 6, nucleus slightly umbilicate, postnuclear whorls with very fine curved growth-striae, nearly smooth, nearly straight, but slightly convex in the upper part, slightly concave near the lower suture, the whorls are prominently keeled above the suture, the keel being finely crenulate. Base a little convex, excavated towards the peripheral keel, with three fine spirals at some distance from the periphery and a few, scarcely

visible ones towards the central part, moreover with numerous very fine curved growth-striae. Umbilicus moderately large, pervious, scalar, with a rib at its margin and a groove just around this rib. Aperture subtriangular, its margins broken, upper one convex, basal one nearly straight, columellar margin short, excavated, angular below by the end of the umbilical rib.

Alt. $2^1/_2$, lat. 5; apert. alt. 1, lat. $1^3/_4$ Mill.

Resembling the former species by its umbilicus and other general characters, but quite different in many particulars.

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Fam. TORINIIDAE.

**Torinia** Gray.

1. *Torinia planulata* Hanley.

HANLEY. Thes. Conch. Vol. III, p. 238, fig. 77.
TRYON. Man. of Conch. Vol. IX, p. 17, Pl. 5, fig. 77.

Stat. 47. Bay of Bima. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 99. North-Ubian, Sulu-archipelago. 16—23 M. Lithothamnion-bottom. 1 Spec.

2. *Torinia dorsuosa* Hinds.

HINDS. Proc. Zool. Soc. Lond. 1844, p. 23.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Solarium, p. 37.
TRYON. Man. of Conch. Vol. IX, p. 17, Pl. 5, fig. 80, 81.

Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 3 spec.

The specimen from Stat. 258 differs from the type, by a third liration at the periphery and finer sculpture of the base; as the only specimen is not yet adult and the sculpture is also variable in the typical specimens, I have provisionally considered it as a variety or individual aberration. From *T. cerdaleum* Melv. (Ann. and Mag. Nat. Hist. Ser. 7, Vol. XII, 1903, p. 297, Pl. 20, fig. 16) which is also tricarinate, it differs by its wide umbilicus, the structure of the columella etc.

3. *Torinia costata* n. sp. Pl. XIV, fig. 5.

Stat. 279. Rumah-Kuda-bay, Roma-island. 36 M. Mud and sand. 2 Spec.

Shell discoidally-depressed, deeply umbilicate, thin, yellowish-brown. Nucleus umbilicate, reddish-brown, smooth, consisting of at least 2 whorls. Subsequent whorls 3, upper surface nearly flat, with a cord at the upper and lower suture, bordered by a groove; the intermediate zone is yellowish-brown, sculptured by oblique ribs and fine spiral striae in the interstices of the ribs; the cords are crenulate and spotted with white, 2 or 3 white crenules alternating with an equal number of brown ones. Whorls separated by a conspicuous canal, in which the linear suture is to be seen, canal ribbed in the same manner as the upper surface. Last whorl biangular

by two cords, the upper one bordering the canal of the upper whorls, the lower cord is of the same construction as the other one, and the interstice is likewise ribbed, base slightly convex, with 5 strongly crenulate spirals, except the peripheral one and placed at some distance from the latter, being separated by a rather broad, concave, ribbed space, the innermost cord borders the large, pervious, funnel-shaped umbilicus; the base is more or less variegated with white. Aperture subquadrangular, canaliculate where the cords end; columellar margin with a groove in its upper part.

Alt. $3^1/_2$, lat. 9; apert. alt. $2^1/_2$, lat. $2^1/_2$ Mill.

This species is allied to *T. dorsuosa*, but may immediately be distinguished by the ribbed upper surface.

4. *Torinia trochoides* Deshayes.

DESHAYES. Encycl. Meth. Vol. II, p. 160.
PHILIPPI. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Solarium, p. 19, Pl. 3, fig. 7 (*dealbata*).
TRYON. Man. of Conch. Vol. IX, p. 18, Pl. 5, fig. 87, 88.

Stat. 215. North point of Kabia-island. Reef. 701 M. Stone. 1 Spec.

The specimen is larger than the quoted figures, its altitude is 14 Mill., its diameter 13. TRYON says: "Alt. 20 mill.", but his figure is only 13 Mill. high.

5. *Torinia madurensis* n. sp. Pl. XIV, fig. 4.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coralsand with shells. 1 Spec.

Shell small, depressedly conic, white, with traces of a brownish epidermis, nucleus glossy, brown, postnuclear whorls $3^1/_2$, slightly convex, nearly angular a little above the suture, by the prominence of one of the spirals, of which there are 6 on the penultimate whorl, these spirals are separated by narrow, shallow grooves and crossed by oblique striae or grooves, which render the spirals crenulate, moreover finer spiral striae, more clearly visible in the interstices, and fine growth-striae cross each other. The fifth of the spirals, counted from above is the most prominent one. Base moderately convex, with 9 spirals, of which the infraperipheral 2 are prominent; those standing on the basal surface are broader and flat, the innermost is coarsely crenulate. Umbilicus pervious, funnel-shaped. Aperture subcircular, its columellar margin expanded and slightly reflected over the umbilicus.

Alt. $4^3/_4$, lat. 6; apert. alt. $2^1/_2$, lat. $2^1/_2$ Mill.

This shell is allied to the preceding species, but it is smaller, broader and has the whorls more conspicuously separated.

6. *Torinia mirabilis* n. sp. Pl. XIV, fig. 6.

Stat. 212. 5° 54'.5 S., 120° 19'.2 E. Banda Sea. 462 M. Fine grey and green mud. 1 Spec.

Shell discoidally depressed, acutely carinated, widely umbilicated, thin, yellowish-brown. Nucleus umbilicate, smooth, postnuclear whorls 4, forming a convex upper surface of shell;

each whorl flat above, connected by a slightly channelled suture. Sculpture consisting of spiral lirae, 8 in number on the last whorls; the infrasutural, the fifth and seventh spirals are more prominent and stronger than the rest; these lirae are crossed by very fine growth-striae and by moderately fine ribs, rendering the lirae crenulate in crossing them, the fifth is even tuberculiferous in some parts; periphery strongly keeled; keel wavy or denticulate by distant short spines, the spaces between them crenulate; keel flat above, concave below, the rest of base convex untill the umbilicus; base inclusive of the under surface of the keel, sculptured by fine spiral lirae of which the innermost 4 are stronger and granular, especially the spiral bordering the umbilicus, which is tuberculate, the whole base is crossed by radiating striae rendering even the finer lirae crenulate. Umbilicus very large, occupying more than half the diameter, open, leaving the volutions visible, each whorl has a row of large granules along the lower suture and 2 a 3 finer ones crossed by radiating striae. Aperture much broken, probably circular, containing the characteristic operculum.

Alt. 3, lat. $9^1/_4$, lat. of umbil. $4^3/_4$ Mill.

This remarkable mollusk, which is not allied to any species I know, was unfortunately considerably damaged, especially at its basal surface, in consequence I could not make out shape and size of the aperture. It probably deserves a subgeneric name, but it being so incomplete, I have provisionally left it in company with the other typical species.

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Section Ptenoglossa.

Fam. Scalidae.

**Scala** Klein.

1. *Scala Pallasii* Kiener.

Kiener. Coq. Viv. Vol. IX, Scalaria, p. 4, Pl. 2, fig. 3.
Reeve. Conch. Ic. Vol. XIX, Scalaria, fig. 40.
Tryon. Man. of Conch. Vol. IX, p. 54, Pl. 11, fig. 33.
Clessin. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Scalaria, p. 59, Pl. 16, fig. 2.

Stat. 248. Rumah Lusi, North point of Tiur-island. Till 54 M. 1 Spec.

The only specimen is fine but not adult.

2. *Scala alata* Sowerby.

Sowerby. Proc. Zool. Soc. Lond. 1844, p. 10.
Reeve. Conch. Ic. Vol. XIX, Scalaria, fig. 15.
Tryon. Man. of Conch. Vol. IX, p. 55, Pl. 11, fig. 40.
Clessin. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Scalaria, p. 20, Pl. 3, fig. 5.

Stat. 2. Madura-strait. 56 M. Grey mud. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 3 Spec.

The specimens from Stat. 116 are quite white, perhaps bleached. The whole party is young.

3. *Scala replicata* Sowerby.

SOWERBY. Proc. Zool. Soc. Lond. 1844, p. 11.
REEVE. Conch. Ic. Vol. XIX, Scalaria, fig. 39.
TRYON. Man. of Conch. Vol. IX, p. 56, Pl. 11, fig. 43.
CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Scalaria, p. 4, Pl. 2, fig. 2.

Stat. 109. Pulu Tongkil, Sulu-archipelago. 13 M. Lithothamnion-bottom. 1 Spec.
Stat. 159. 0° 59'.1 S., 129° 48'.8 E. Halmahera Sea. 411 M. Coarse sand. 2 Spec.
Stat. 313. Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The specimen from Stat. 109 is nearly too bad for identification, but has much resemblance with those from Stat. 159, which are however also broken and dead; this may account for the exceptional great depth.

4. *Scala tenuicostata* Sowerby.

SOWERBY. Thes. Conch. Vol. I, Pl. 34, fig. 76.
REEVE. Conch. Ic. Vol. XIX, Scalaria, fig. 31.
TRYON. Man. of Conch. Vol. IX, p. 56, Pl. 11, fig. 44.
CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Scalaria, p. 10, Pl. 3, fig. 8.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand. 1 Spec.

5. *Scala deifica* Melvill.

MELVILL. Journ. of Conchology. Vol. X, p. 343, Pl. 7, fig. 4.

Stat. 59. Western entrance, Samau-strait. 390 M. Coarse coralsand with small stones. 1 Spec.

Though the specimen seems not to be adult, as it has only a length of $8^1/_2$ Mill. instead of 11, and at least one whorl less than the described type, it is a very beautiful shell and no doubt identical, as Mr. MELVILL had the kindness to compare it with his type.

6. *Scala lyra* Sowerby.

SOWERBY. Proc. Zool. Soc. Lond. 1844, p. 13.
REEVE. Conch. Ic. Vol. XIX, Scalaria, fig. 23.
TRYON. Man. of Conch. Vol. IX, p. 59, Pl. 12, fig. 69.
CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Scalaria, p. 22, Pl. 6, fig. 4.

Stat. 95. 5° 48'.7 N., 119° 49'.62 E. Sulu Sea. 522 M. Stony bottom. 1 Spec.

The only specimen which was very young and already broken, unfortunately has been smashed to pieces in extracting the cork from the tube containing the shell.

7. *Scala Tydemani* n. sp. Pl. XV, fig. 1.

Stat. 315. Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

Shell rather small, pyramidal, with a very narrow umbilicus, thin, flesh-coloured, with violaceous upper whorls. Whorls 6, nucleus wanting, these whorls are very convex, nearly

smooth, with only a few irregular impressed striae, suture very deep; the whole shell is crossed by white ribs, the majority of which is rather thin, slightly lamellose towards the upper part of each whorl, but forming no spines; under a strong lens the ribs are finely crenulate at their anterior side; a few of the ribs are stronger, forming varices at irregular intervals, one bordering the aperture, but also the preceding rib is thickened; the number of ribs is 29 on the last whorl. Aperture oval, with a thick, continuous, white lip, slightly reflected over, but not closing the umbilicus. Interior of aperture flesh-coloured, white towards the margin.

Alt. $8^3/_4$, lat. $4^1/_4$; apert. alt. 3, lat. $2^1/_5$ Mill.

This fine species may be allied to *S. clementina* Grat., and *bulbulus* Sow. but is more elongate and easily recognized by its violaceous colour.

8. *Scala fragilissima* n. sp. Pl. XV, fig. 3.

Stat. 178. 2° 40′ S., 128° 37′.5 E. Ceram Sea. 835 M. Blue mud. 2 Spec.

Shell subperforate, pyramidal, very thin, transparent, yellowish-white, nucleus wanting, remaining whorls probably 7 or 8 (both specimens incomplete), very convex, obtusely angular a little above the periphery, with a very deep suture; sculpture consisting of spiral ribs, about 15 in number on the penultimate whorl, and thin, undulating ribs, crossing the spirals and giving a cancellated appearance to the shell; these radiating ribs are, if well preserved, delicately spinose at the upper part and their crest as well as the whole rib is undulated, these undulations corresponding to the spiral ribs; the ribs are subequal, becoming only a little stronger with age, their number is about 23 on the last whorl, which is slightly angular, but has no basal rib. Aperture incomplete, probably nearly circular, only faintly angular above, its right margin thin (young?), its columellar margin slightly reflected over and nearly covering the umbilicus, which in the largest specimen is still circumscribed by a thin rim.

Alt. (of largest specimen) $9^7/_8$, lat. $3^3/_4$; apert. lat. 2 Mill.

Though the specimens are rather incomplete, I think they are characteristic enough, to deserve a name and description; they resemble in shape *S. formosissima*, from the Azores, but have still much more convex whorls and much finer and more elaborate sculpture; in this respect they resemble *S. undulatissima* Sow., but that species is only very minutely spirally striate and much broader in proportion to its length.

9. *Scala (Clathrus) pulcherrima* Sowerby.

Sowerby. Proc. Zool. Soc. Lond. 1844.
Reeve. Conch. Ic. Vol. XIX, Scalaria, fig. 67 (Spec. 68).
Tryon. Man. of Conch. Vol. IX, p. 68, Pl. 14, fig. 32.
Clessin. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Scalaria, p. 34, Pl. 10, fig. 11 (figured as *catanuensis*).

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.

As stated by Tryon, the figure and description of Reeve don't correspond; the figures of *S. pulcherrima* and *S. catanuensis* having been changed on the plate. Clessin, whose

monograph seems to be in most instances a bad copy and translation of that of REEVE, has overlooked that mistake.

10. *Scala abyssicola* n. sp. Pl. XV, fig. 2.

Stat. 45. 7° 24 S., 118° 15'.2 E. Flores Sea. 794 M. Fine grey mud. 2 Spec.

Shell subperforate, pyramidal, thin, whitish; nucleus wanting, remaining whorls 8, very convex, obtusely angular at the shoulder, slightly disunited, nearly smooth, but with a few remote spiral striae and fine growth-striae; the whorls are crossed by thin, slightly reflected ribs, 18 in number on the last whorl; these ribs are spinous at the shoulder, their margin is serrulate (these serrulations may be natural or caused by friction) they are practically equal, none of them being varix-like; base of shell regularly rounded. Aperture circular, right margin thin (young?) its columellar margin broadly reflected over the perforation and quite covering, but probably not closing it.

Alt. $14^1/_2$, lat. 5 Mill.; aperture of a specimen long $9^1/_2$ Mill., $2^1/_2$ Mill.

This species resembles in shape the preceding one, but it is quite different by its nearly smooth interstices of the ribs, which are themselves more simple, being undulate in *S. fragilissima.*

11. *Scala (Clathrus) Melvilli* n. sp. Pl. XIV, fig. 9.

Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 1 Spec.

Shell pyramidal, imperforate, very thin, transparent, white. Whorls 9, of which 3 smooth nuclear ones. Postnuclear whorls very convex, slightly shouldered, with a very deep suture; upper and basal part of each whorl smooth, median part with 3 thin spiral ribs in the interstices of the radiating ribs, which are thin, lamellose, flexuous, with an auricle at the suture and another at the shoulder, moreover an undulation at the peripheral part, and a second one near the base of each whorl; in the upper whorls the ribs are more simple. Aperture circular, with a broadly expanded margin, formed by the last rib, of which there are 15 on the last whorl; columellar margin narrowly reflected, accompanied at the place of the umbilicus by a lamellose rim.

Alt. $5^4/_7$, lat. $2^7/_8$; apert. $1^1/_4$ Mill. in diameter.

This species resembles *S. malcolmensis* Melvill (Memoirs and Proc. Manch. Lit. and Phil. Soc. Vol. 42, 1898, p. 20, Pl. 7, fig. 2), but the ribs of the new species are much more elaborate, being flexuous.

12. *Scala (Opalia) lamellosa* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. XIX, p. 73.
KIENER. Coq. Viv. Vol. IX, Scalaria, p. 10, Pl. 3, fig. 7.
TRYON. Man. of Conch. Vol. IX, p. 74, Pl. 15, fig. 83, 84, 77.

Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 152. Wunoh-bay, N. W. coast of Waigeu-island. 32 M. Lithothamnion-bottom. 1 Spec.

Perhaps the name *perplexa* Pse. would be the most fitting one for this shell, as really

it is very perplexing to see how the opinion of authors differs in the appreciation of the limits of the species or varieties more or less allied to *S. lamellosa*. I have followed Messrs. MELVILL and STANDEN (Proc. Zool. Soc. Lond. 1901, p. 356), who have made use of the familiar name *lamellosa*, Mr. MELVILL being in 1903 still of the same opinion (Journ. of Conch. Vol. 10, p. 348).

13. *Scala (Opalia)* sp.?

Stat. 45. 7° 24′ S., 118° 15′.2 E. Flores Sea. 794 M. Fine grey mud. 1 Spec.

This species may be new, but it is though large (nearly 20 Mill. in length), too much worn, with broken aperture, consequently not recognizable, so I thought it better not to describe a species, without a knowledge of the true colour, of sculpture and aperture.

14. *Scala (Opalia) humerosa* n. sp. Pl. XIV, fig. 7.

Stat. 241. 2° 24′.3 S., 129° 49′.3 E. Banda Sea. 1570 M. Dark sand with small stones. 1 Spec.

Shell elongately pyramidal, imperforate, moderately thin, white; nucleus wanting; remaining whorls 11, convex, slightly contracted below the deep suture, there shouldered or angular; sculpture consisting of low spiral ridges, about 13 on last whorl, of which the basal one forms the rib characteristic for the subgenus, a small space above that rib and a larger one below the suture are free of ridges; the whorls are crossed by strong ribs, 13 in number on the last whorl, not quite reaching the upper suture; these ribs are angular at the shoulder and less so below, they are crossed by the ridges, which are however less sharp on the ribs, perhaps on account of friction; the interstices have fine, hairlike, elevated striae, which are also present on the sides of the ribs. Base with traces of ridges and with the hairlike striae, but in a much fainter degree. Aperture subcircular, slightly angular above, below and fainter at the end of the shoulder and of the basal rib. Columellar margin reflected over the umbilical region, outer margin thin (juvenile?).

Alt. 15, lat. $4^1/_6$; apert. alt. $2^1/_4$, lat. 2 Mill.

I know no described species of *Opalia*, to which this new form is allied.

15. *Scala (Opalia) Sibogae* n. sp. Pl. XIV, fig. 8.

Stat. 159. 0° 59′.1 S., 129° 48′.8 E. Halmahera Sea. 411 M. Coarse sand. 1 Spec.

Shell elongately pyramidal, imperforate, solid, corneous; nucleus wanting; remaining whorls $10^1/_2$, convex, with a deep suture, slightly shouldered; sculpture consisting of 3 strong spiral ridges and a few spiral striae in the interstices, crossed by strong ribs, 12 on last whorl, angular above, when the upper spiral crosses the ribs, being slightly nodulous by the intercrossing of the strong spirals; some of the ribs have the appearance of varices, a.o. that next the aperture; last whorl with 4 spirals, of which one is the usual basal one; base with a few very faint spirals; the whole shell, especially the base is covered with very fine growth-striae. Aperture

oval, slightly angular above, right margin slightly broken, probably varicose in the adult shell; columellar margin thickened below, reflected over the umbilical region.

Alt. 11, lat. $3^{3}/_{5}$; apert. alt. 2, lat. $1^{1}/_{2}$ Mill.

This species has superficial resemblance with the preceding one, but has a much coarser sculpture and is much less shouldered.

16. *Scala (Opalia) Nierstraszi* n. sp.

Stat. 159. 0° 59'.1 S., 129° 48'.8 E. Halmahera Sea. 411 M. Coarse sand. 1 Spec.

Shell small, pyramidal, imperforate, solid, white; nucleus wanting; remaining whorls $7^{1}/_{2}$, moderately convex, with a distinct but no deep suture; sculpture consisting of impressed spiral striae and fine radiating ones over the whole surface, if not rubbed of; ribs strong, thick, incised by the spiral striae, ten on last whorl; the last very thick rib bordering the aperture. Basal rib of last whorl strong; base slightly excavated, sculptured with faint spiral striae, crossed by the growth-striae. Aperture circular with a nearly smooth, rather thick internal lip, bordered on the right and part of basal margin, by a broadly expanded flat varix, with the same sculpture of the outer surface of shell.

Alt. $6^{1}/_{2}$, lat. incl. perist. $3^{1}/_{4}$; diam. of apert. $1^{1}/_{6}$ Mill.

I know no species allied to this beautifully sculptured shell.

17. *Scala (Cirsotrema)* sp.

Stat. 153. 0° 3'.8 N., 130° 22'.3 E. North off Waigeu-island. 141 M. Fine and coarse sand with dead shells. 2 Spec.

Both specimens are young, they have some resemblance with the upper whorls of *S. Kieneri* Tap. Can. but are different in their sculpture, which is very fine; as even the apertures are incomplete, I have abstained myself from naming and describing them, though they probably belong to a new species.

# SUPPLEMENT.

Some sheets of the second part of this publication had been printed, when I received a box of shells, found amongst corals of the "Siboga" materials; though this box contained only common species, there were a few not yet enumerated in the first two parts on *Gastropoda*. I have mentioned them in this supplementary note, and added a few localities of species already dealed with, but I have omitted to mention such cases, when I found one or a few specimens of species recorded in the bulk of the work, from the same localities.

## PART I.

pag. 23. To N° 1, *Turbo petholatus* Lin. add:

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 adult Spec.

## PART II.

pag. 110 (2). To N° 1, *Aquillus pilearis* Lin. add:

Stat. 193. Sanana-bay, East coast of Sûla Besi. Reef. 2 Spec.
Stat. 234. Nalahia, Nusa-Laut-island. Reef. 2 Spec.

pag. 111 (3). To N° 3, *Aquillus rubecula* Lin. add:

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 3 Spec.

after sp. 4 add:

4*a*. *Aquillus (Lampusia) lotorius* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 749, N° 457.
RUMPH. Amb. Rariteitkamer, p. 85, Pl. 26, fig. B.
KIENER. Coq. Viv. Vol. VI, Triton, p. 11, Pl. 9, fig. 1.
REEVE. Conch. Ic. Vol. II, Triton, fig. 9.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

pag. 119 (11). To N° 9, *Bursa granifera* Lam. add:

Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.

pag. 121 (13) before N° 1, add:

*Cassis rufa* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 736, N° 385.
RUMPH. Amb. Rariteitkamer, p. 80, Pl. 23, fig. B, C.
KIENER. Coq. Viv. Vol. VII, Cassis, p. 15, Pl. 7, fig. 12, 13.
REEVE. Conch. Ic. Vol. V, Cassis, fig. 20.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

pag. 122 (14). To N° 4, *Cassis vibex* Lin. add:

Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.

pag. 123 (15). To var. *erinacea* Lin. add:

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

To N° 5, *Cassis torquata* Reeve, add:

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

pag. 125 (17). To N° 1, *Dolium olearium* Brug. add:

Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.

after N° 3. *Dolium fasciatum* Brug. add:

3*a*. *Dolium perdix* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 734, N° 378.
RUMPH. Amb. Rariteitkamer, p. 90, Pl. 27, fig. C.
KIENER. Coq. Viv. Vol. VII, Dolium, p. 4, Pl. 5, fig. 9.
REEVE. Conch. Ic. Vol. V, Dolium, fig. 9.

Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.
Stat. 225. South point of South Lucipara-island. Reef. 1 Spec.

pag. 126 (18). To N° 4. *Dolium pomum* Lin. add:

Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.

after **Cypraea** Lin. add:

*Cypraea scurra* Chemnitz.

CHEMNITZ. Conch. Cab. Ed. I, Vol. X, p. 103, Pl. 144, fig. 1338.
KIENER. Coq. Viv. Vol. I, p. 107, Pl. 5, fig. 2; Pl. 50, fig. 1.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 45.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 19, Pl. 4, fig. 8, 9; Pl. 6, fig. 3, 4.
TRYON. Man. of Conch. Vol. VII, p. 165, Pl. 2, fig. 19—21.

Stat. 96. South-east side of Pearl-bank, Sulu-archipelago. 15 M. Lithothamnion-bottom. 1 Spec.

pag. 127 (19). To N° 2. *Cypraea carneola* Lin. add:

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.

To N° 3. *Cypraea talpa* Lin. add:

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.

pag. 128 (20) after N° 9. *Cypraea caurica* Lin. add:

9*a*. *Cypraea cruenta* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3420.
RUMPH. Amb. Rariteitkamer, p. 115, Pl. 38, fig. O.
KIENER. Coq. Viv. Vol. I, p. 157, Pl. 27, fig. 2 (*variolaria*).
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 38.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, p. 35, Pl. 10, fig. 9—12 (*variolaria*).

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

9*b*. *Cypraea mauritiana* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 721, N° 299.
RUMPH. Amb. Rariteitkamer, p. 114, Pl. 38, fig. E.
KIENER. Coq. Viv. Vol. I, p. 103, Pl. 39, fig. 1; Pl. 40, fig. 1; Pl. 47, fig. 1.
REEVE. Conch. Ic. Vol. III, Cypraea, fig. 1.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Cypraea, Pl. 6, fig. 7—9, Pl. 21, fig. 2, 6, 7.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

pag. 131 (23). To N° 14. *Cypraea tigris* Lin. add:

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

To N° 15. *Cypraea vitellus* Lin. add:

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.

To N° 16. *Cypraea lynx* Lin. add:

Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.

# PLATE X.

Fig. 1*a*, *b*. *Gyrineum perca* Perry, var. *aculeata* n. var. *c*. larger specimen.
Fig. 2. *Oocorys Weberi* n. sp.
Fig. 3. *Oocorys elongata* n. sp.
Fig. 4. *Morio granulata* n. sp.
Fig. 5. *Morio lineata* n. sp.
Fig. 6. *Morio Alcocki* Smith.

C. Dumont del.

Fa. P. W. M. Trap impr.

# PLATE XI.

Fig. 1. *Trivia abyssicola* n. sp.
Fig. 2. *Trivia paucicostata* n. sp.
Fig. 3. *Trivia sibogae* n. sp.
Fig. 4. *Trivia sibogae* forma *minor*.
Fig. 5. *Rostellaria Powisii* Recl., var. *abyssicola* n. var.
Fig. 6. *Cerithium Tydemani* n. sp. *c*. Sculpture.
Fig. 7. *Cerithiopsis Versluysi* n. sp.
Fig. 8. *Triphora Versluysi* n. sp. *c*. Sculpture.
Fig. 9. *Triphora Schmidti* n. sp. *c*. Sculpture.
Fig. 10. *Amphiperas roseomaculatum* n. sp.
Fig. 11. *Turritella maculata* Reeve, var. *ornata* n. var.

Fig. 1—5, 10, 11, C. Dumont, fig. 6—9 de Graaf del.

Fa. P. W. M. Trap impr.

# PLATE XII.

Fig. 1. *Argyropeza Melvilli* n. sp.
Fig. 2. *Trichotropis orientalis* n. sp.
Fig. 3. Probably belongs to Trichotropidae.
Fig. 4. *Seguenzia Melvilli* n. sp.
Fig. 5. *Seguenzia Dautzenbergi* n. sp.
Fig. 6. *Seguenzia Sykesi* n. sp.
Fig. 7. *Seguenzia costulifera* n. sp.
Fig. 8. *Melania salibabuensis* n. sp. *a*. large, *b*. smaller specimen.
Fig. 9. *Rissoa kwandangensis* n. sp.
Fig. 10. *Cyclotus kangeanus* n. sp. *a*. light-coloured, *b*—*d*. darker specimen.
Fig. 11. *Mitrularia costifera* n. sp.

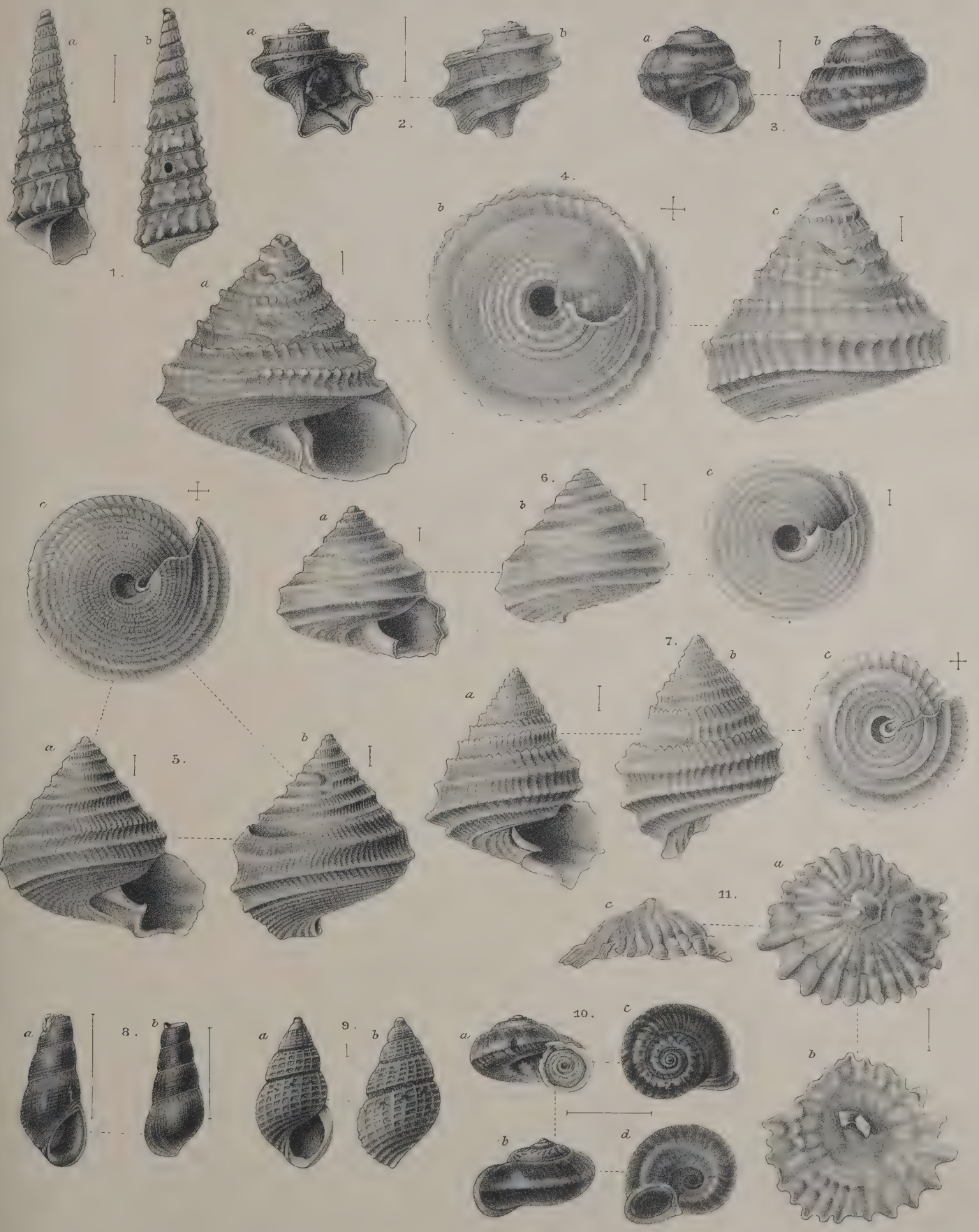


Fig. 1—3; 8, 10 de Graaf; 4—7, 9, 11 Dumont del.

Fa P. W. M. Trap impr.

# PLATE XIII.

Fig. 1. *Xenophora gigantea* n. sp. *a*. lateral view (oblique), *d*. operculum.
Fig. 2. *Natica nebulosa* n. sp.
Fig. 3. *Natica crassa* n. sp.
Fig. 4. *Natica supraornata* n. sp.
Fig. 5. *Natica faba* n. sp.

Fig. 1 de Graaf, 2—5 Dumont del.

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# PLATE XIV.

Fig. 1. *Natica simplex* n. sp.
Fig. 2. *Fluxina marginata* n. sp. *a. c.* small, *b.* large specimen.
Fig. 3. *Fluxina trochiformis* n. sp.
Fig. 4. *Torinia madurensis* n. sp.
Fig. 5. *Torinia costata* n. sp.
Fig. 6. *Torinia mirabilis* n. sp.
Fig. 7. *Scala humerosa* n. sp.
Fig. 8. *Scala sibogae* n. sp.
Fig. 9. *Scala Melvilli* n. sp.

Fig. 1–4, 7–9 C. Dumont; fig. 5, 6 de Graaf del.

Fa P. W. M. Trap impr.

# PLATE XV.

Fig. 1. *Scala Tydemani* n. sp.
Fig. 2. *Scala abyssicola* n. sp. *a.* smaller, *b.* larger specimen.
Fig. 3. *Scala fragilissima* n. sp. *a.* smaller, *b.* larger specimen.
Fig. 4. *Scala Nierstraszi* n. sp.
Fig. 5. *Rimella Tyleri* Ads. *a.* larger, *b.* smaller specimen.
Fig. 6. Teeth of radula of *Amphiperas philippinarum* Sow. (see p. 144).
Fig. 7. Teeth of radula of *Gyrineum cuspidatum* Rve.
Fig. 8. Teeth of radula of *Amphiperas Angasi* (Ads.) Rve. (see p. 144).
Fig. 9. Teeth of radula of *Amphiperas secale* Sow. (see p. 145).
Fig. 10. Teeth of radula of *Calpurnus verrucosus* Lin.
Fig. 11. Teeth of radula of *Argyropeza divina* Melv. & Stand.
Fig. 12. Teeth of radula of *Seguenzia Melvilli* n. sp.

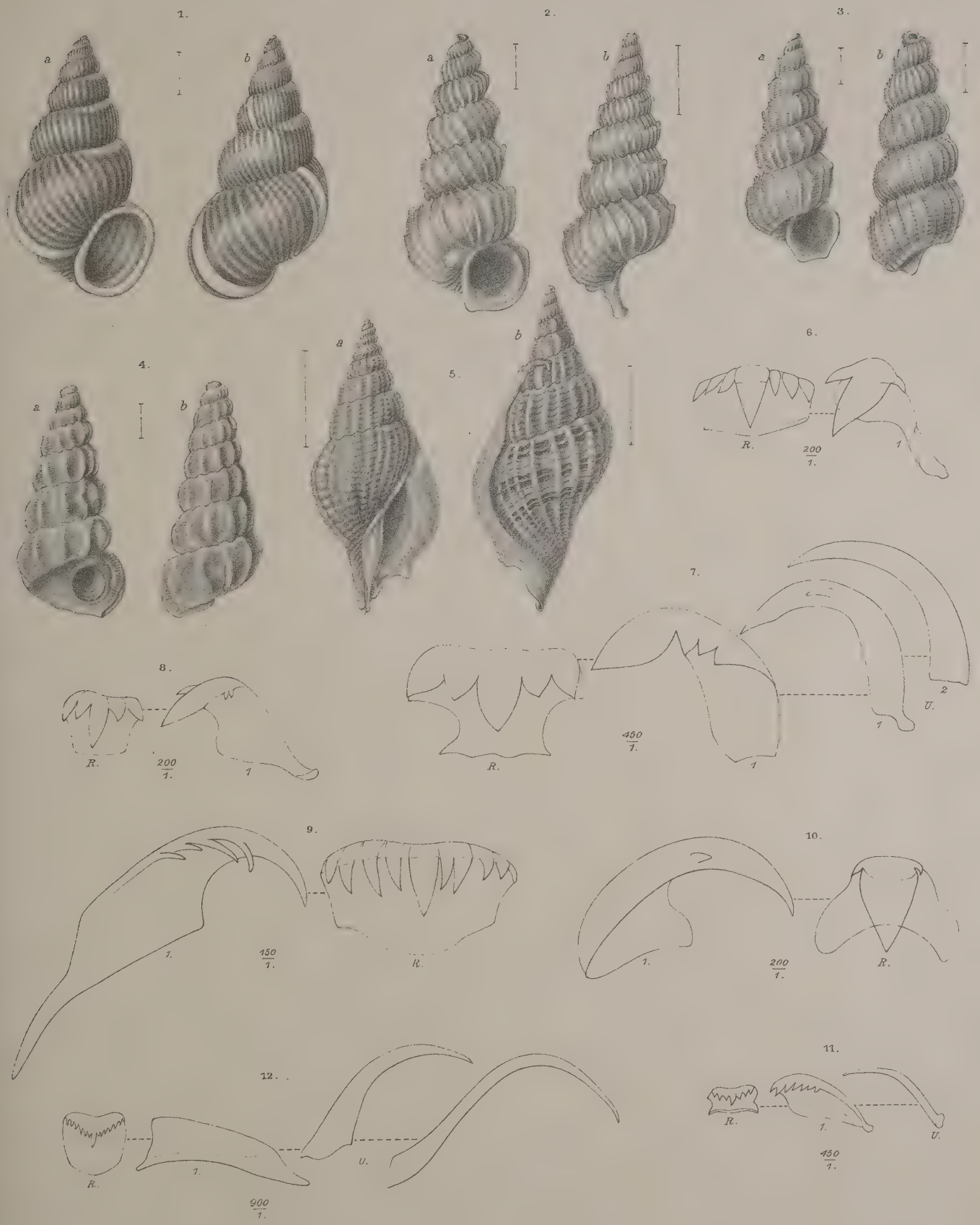
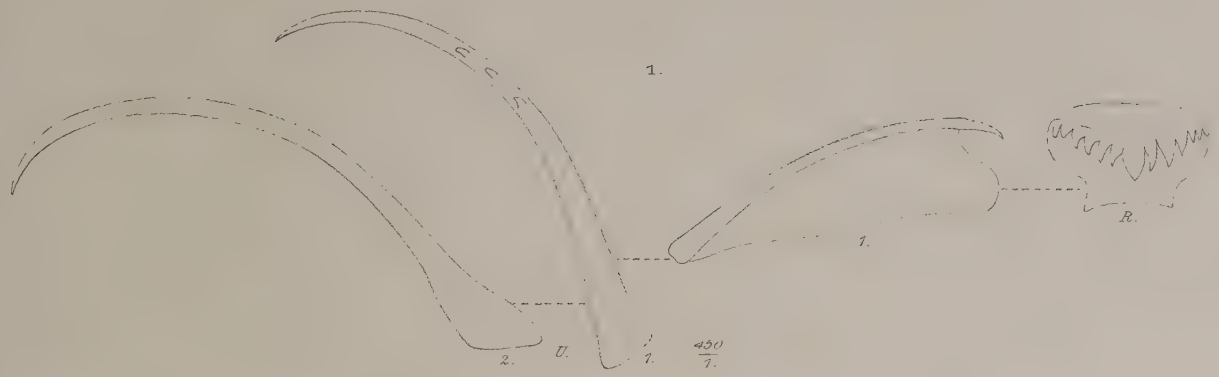



Fig. 1—6. C. Dumont, fig. 7—12 M. M. S. del.

Fa P. W. M. Trap impr.

# PLATE XVI.

Fig. 1. Teeth of radula of *Rimella Tyleri* Ads.
Fig. 2. Teeth of radula of *Rostellaria Powisii* Recl.
Fig. 3. Teeth of radula of species probably belonging to Trichotropidae.
Fig. 4. Teeth of radula of *Quoyia decollata* Quoy & Gaimard.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2.
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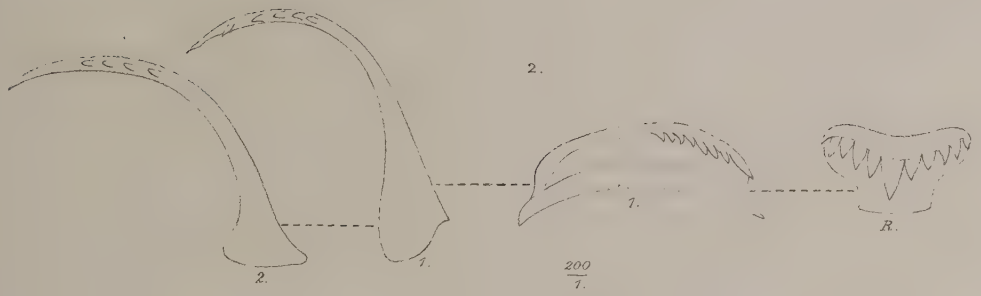
430/1.


2.
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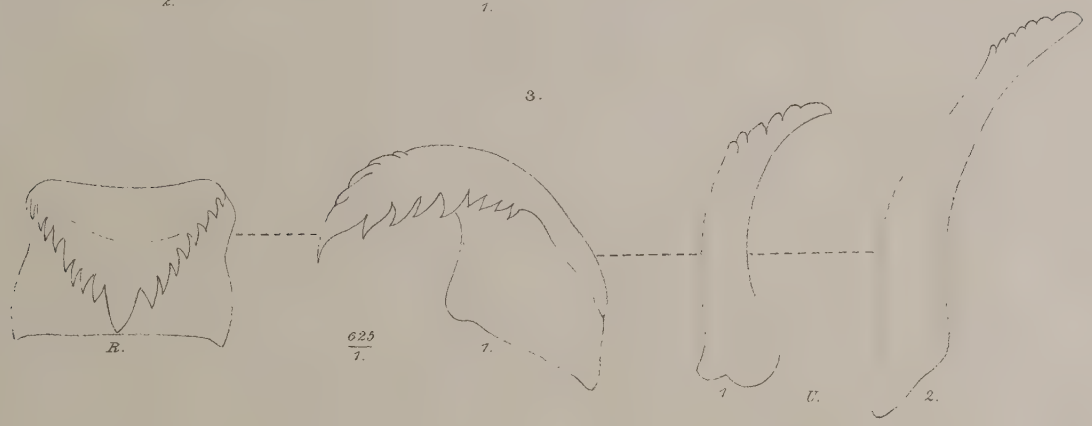
3.
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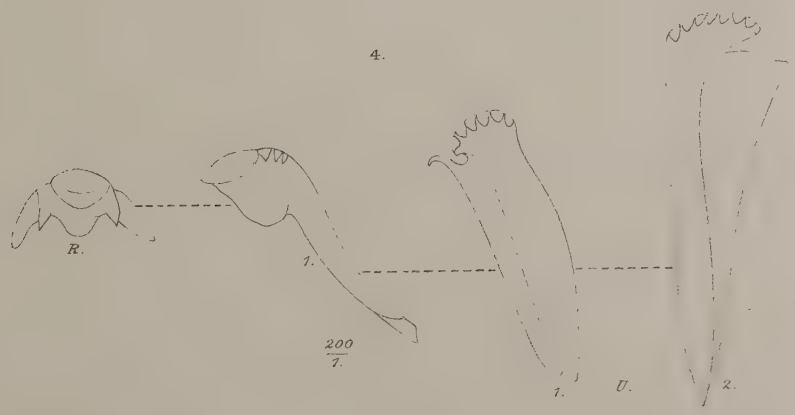
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PART IV

# RACHIGLOSSA

This fourth part of the Gastropoda of the Siboga Expedition, deals with the large section of the rachiglossate mollusks; it contains the enumeration of a much larger number of species than its predecessor, no less than 335 species having been recorded, of which I describe 45 as new to science, which are all figured; moreover a few new varieties of these and longer known species are described and many of them are also figured. I hope not to have exaggerated the number of novelties, but may observe that I nearly never described a new form unless it has been compared by Mr. E. A. SMITH, I.S.O., of the British Museum, in order to avoid redescribing forms already known, especially with a view on the numerous unfigured ones of ADAMS. I here openly bring him my kind thanks for his never failing readiness in this respect. I have scarcely less to thank, Mr. J. COSMO MELVILL, M.A., D.Sc. for much information in the same line and for the loan and even donation of specimens. Dr. STURANY, as acknowledged in due place in this work, sent me for comparison his new species of Nassa of the group of *N. munda* etc. and in some other cases I received assistance from several persons in naming specimens and beg them all to accept my kind thanks. As to litterature, I continually could make use of the rich library of Teyler's Museum and I am infinitely grateful to its most obliging librarian Mr. VERWIJNEN.

As to the location of species in the sections of genera I am not quite certain I have always been right. In several cases I was able to ascertain their systematic position by examining the radulae, but in many other cases when the soft parts were wanting, I must make the words of TRYON (Manual of Conchology 1st series, Vol. II, p. 116) my own, when dealing with Ocinebra he says: "with regard to these I claim the indulgence of brother conchologists, who may have similarly found themselves in the predicament of being compelled to place something somewhere, just to get it off their hands". The sections of Mitridae, Nassa, Columbella and other genera are not always limited clear enough, to avoid mistakes in this respect.

I have on this occasion to repair a mistake in the first part of my work. In erecting the family Neritilidae, I came to the conclusion of its difference, after the manuscript was ready,

and omitted to place this new group after Septaria, which latter I consider to belong to the family Neritidae. My new family has been attacked by Dr. SIMROTH and by Prof. THIELE; the latter who had the kindness to send me his paper (Über die Anatomie von Hydrocena cattaroensis Pfr., in Abh. der Senckenb. Naturf. Gesellschaft in Frankf. a/M., Band 32, p. 351—358) acknowledges the genus, but is inclined to let it remain in the family Neritidae. This is one of the questions of appreciation of characters, not easy to be solved in a decisive manner, I think such a considerable difference might be sufficient, at all events the shape of the teeth, especially of that replacing the "Schirmplatte", does not agree with the family-characters as they were limited till recently. As to Dr. SIMROTH, he accuses me of having divided the group into two families "**on conchological characters**", as I see in his paper which I detected on p. 27 of the Proceedings of the Mal. Society of Londen, Vol. IX, 1910. I must reply that this accusation is quite wrong; if Dr. SIMROTH had carefully read that part of my work, he would have perceived that it is only in the first place on anatomical characters, that I erected the family, for as far as I am aware, the radula is still generally considered as belonging to the anatomical side of a mollusk. If one ought to consider the radula or the genital organs to be of more importance I will not decide, but I have had so much satisfaction of my researches of the radula, that I cannot consider it as of little value. The union of Nerita and Septaria in one genus as according to SIMROTH's paper has been accomplished by Prof. BOURNE "in the first place upon the genital organs" will, I hope, not convince many malacologists, for though the splitting up of families and genera may have gone too far in many instances, I think science will not be promoted by mixing groups of such a diversified appearance of shell and operculum, even if closely allied in some other respects.

Section Rachiglossa (Gray) Troschel.

Fam. Olividae.

**Oliva** Bruguière.

1. *Oliva episcopalis* Lamarck.

Lamarck. An. s. vert. Ed. II, Vol. X, p. 611.
Rumph. Amb. Rariteitkamer, p. 120, spec. VI part.
Reeve. Conch. Ic. Vol. VI, Oliva, fig. 24.
Marrat. Thes. Conchyl. Vol. IV, Oliva, p. 8, Pl. 4, fig. 48—50 (*coerulea*).
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 89, Pl. 21, fig. 2, 3, 6, 7.
Tryon. Man. of Conch. Vol. V, p. 74, Pl. 18, fig. 60; Pl. 19, fig. 61.

Stat. 33. Bay of Pidjot, Lombok. Up to 22 M. Mud, coral and coralsand. 1 Spec.

This is a typical specimen. I have not quoted the figures of Tryon, representing several varieties united by that author to this species. For the classification I followed the views of Weinkauff and Tryon, who left the majority of species in one large typical section.

2. *Oliva guttata* Lamarck.

Lamarck. Ann. s. vert. Ed. II, Vol. X, p. 612.
Rumph. Amb. Rariteitkamer, p. 120, Pl. 39, fig. 6.
Reeve. Conch. Ic. Vol. VI, Oliva, fig. 30 (*cruenta*).
Marrat. Thes. Conchyl. Vol. IV, Oliva, p. 8, Pl. 5, fig. 57—60 (*emicator*).
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 14, 26, Pl. 6, fig. 12, 13; Pl. 9, fig. 1—3.
Tryon. Man. of Conch. Vol. V, p. 74, Pl. 19, fig. 64—67.

Stat. 37. Sailus ketjil, Paternoster-islands. Up to 27 M. Coral and coralsand. 2 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 1 Spec.
Stat. 66. Bank between islands of Bahuluwang and Tambolungan, south of Saleyer. 8—10 M. Dead coral, Halimeda, Lithothamnion. 3 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 2 Spec.
Stat. 91. Muaras reef, East coast of Borneo. Up to 54 M. Hard coral sand. 1 Spec.
Stat. 142. Laiwui, coast of Obi Major. 23 M. Mud. 1 Spec.
Stat. 152. Wunoh-bay, N. W. coast of Waigeu-island. Reef. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. 46 M. Stony bottom. 3 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.
Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

This variable species may be better known to recent authors under the names of *cruenta* Solander or *emicator* Meuschen. I have followed WEINKAUFF, who (l. c.) says on this subject: "Die Namen *O. cruenta* Solander und *emicator* Meuschen können den LAMARK'schen Namen nicht ausschliessen; ersterer ist Manuscriptnamen, der erst seit DILLWIJN Geltung hat und die MEUSCHEN'schen Namen verdienen kaum Berücksichtigung, weil sie nicht den LINNÉ'schen Regeln entsprechen". In accordance with this view, v. MARTENS and other eminent authors have used the name *guttata*.

3. *Oliva rufula* Duclos.

DUCLOS. Chenu. Illustr. Conch. Oliva, p. 23, Pl. 21, fig. 9, 10.
REEVE. Conch. Ic. Vol. VI, Oliva, fig. 50.
MARRAT. Thes. Conchyl. Vol. IV, Oliva, p. 18, Pl. 14, fig. 197, 198.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 87, Pl, 23, fig. 8, 9.
TRYON. Man. of Conch. Vol. V, p. 75, Pl. 20, fig. 79.

Stat. 231. Amboina. Reef. 5 Spec.

4. *Oliva elegans* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 611.
RUMPH. Amb. Rariteitkamer, p. 120, Pl. 39, fig. 5.
REEVE. Conch. Ic. Vol. VI, Oliva, fig. 20.
MARRAT. Thes. Conchyl. Vol. IV, p. 15, Pl. 11, fig. 158—160.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 97, Pl. 26, fig. 1—3, 5, 6.
TRYON. Man. of Conch. Vol. V, p. 76, Pl. 20, fig. 81—83; Pl. 21, fig. 84—88.

Stat. 58. Seba, Savu. Up to 27 M. Sand. 2 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. Reef. 1 Spec.

The specimen from Stat. 301 has in colour much resemblance to some specimens of *O. tigrina* Lam., but is easily distinguished by its less inflated shape.

5. *Oliva similis* Marrat.

MARRAT. Thes. Conch. Vol. IV, Oliva, p. 18, Pl. 14, fig. 205—207.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 105, Pl. 27, fig. 7, 8, 11.
TRYON. Man. of Conch. Vol. V, p. 77, Pl. 21, fig. 92 (*Lecoquiana* var.).

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.

WEINKAUFF (l. c.) says that this species is still rare in collections; this may account for uniting it with *O. Lecoquiana* Ducr. by TRYON (l. c.). I can find but little resemblance with that species. The only specimen perfectly agrees with WEINKAUFF's ample description.

6. *Oliva funebralis* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 617.
REEVE. Conch. Ic. Vol. VI, Oliva, fig. 10*a* (*maura* var.).
MARRAT. Thes. Conch. Vol. IV, Oliva, p. 14, Pl. 11, fig. 146—148 (*Labradorensis*).

WEINKAUFF. Martini-Chemn. Conch Cab. Ed. II, Vol. V, Oliva, p. 30, Pl. 1, fig. 9, 10; Pl. 9, fig. 4, 7, 8, 10.
TRYON. Man. of Conch. Vol. V, p. 77, Pl. 21, fig. 97—99; Pl. 22, fig. 100—5.

Stat. 231. Amboina. Reef. 10 Spec.
Stat. 272. Dobo, Aru-islands. Reef. 3 Spec.

The specimens from Dobo agree with LAMARCK's description of the colour: "flavida" "un fond jaunâtre", those from Amboina are mainly darker.

7. *Oliva octavia* Duclos.

DUCLOS. Chenu. Illustr. Conch. p. 29, Pl. 28, fig. 21, 22.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 103 (*neostina* pars).
TRYON. Man. of Conch. Vol. V, p. 78, Pl. 22, fig. 15 (*neostina* var.).

Stat. 231. Amboina. Reef. 2 Spec.

Perhaps this species belongs to one of the allied forms, but as the two specimens are easily recognizable, I have kept them separate.

8. *Oliva laevis* Marrat.

MARRAT. Thes. Conch. Vol. IV, Oliva, p. 26, Pl. 20, fig. 330, 331.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 121, Pl. 32, fig. 1—4.
TRYON. Man. of Conch. Vol. V, p. 78, Pl. 22, fig. 9 (*mustelina* var.).

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.

A small specimen. WEINKAUFF and TRYON have much doubt about the validity of this species and really its characters are far from prominent, but I do not know to which species I should unite it and so have kept it separate.

9. *Oliva maura* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 608.
RUMPH. Amb. Rariteitkamer, p. 119, Pl. 39, fig. 2.
REEVE. Conch. Ic. Vol. VI, Oliva, fig. 10 (pars).
MARRAT. Thes. Conch. Vol. IV, Oliva, p. 14, Pl. 10, fig. 133—140.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 7, 21, Pl. 1, fig. 2—4; Pl. 2, fig. 3, 4, 6, 7, 8, 9; Pl. 5, fig. 17.
TRYON. Man. of Conch. Vol. V, p. 78, Pl. 23, fig. 21—25; Pl. 1, fig. 5; Pl. 34, fig. 54.

Stat. 33. Bay of Pidjot, Lombok. Up to 22 M. Mud, coral and coralsand. 2 Spec.
Stat. 131. Beo, Karakelang-islands. 13 m. Mud and sand. 2 Spec.
Stat. 204. Between Wowoni and Buton, northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.
Stat. 304. Lamakera, Solor-island. 16 M. Coral and Sand. 1 Spec.

One of the specimens from Stat. 131, dark grey with black ziczac-lines may be ascribed to var. *fulminans* Lam. (l. c. p. 610).

10. *Oliva sanguinolenta* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 615.
REEVE. Conch. Ic. Vol. VI, Oliva, fig. 25*b*.
MARRAT. Thes. Conch. Vol. IV, Oliva, p. 16, Pl. 12, fig. 171, 172 (*viridescens*).
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 37, Pl. 1, fig. 7, 8; Pl. 10, fig. 3, 4.
TRYON. Man. of Conch. Vol. V, p. 79, Pl. 23, fig. 28.

Stat. 33. Bay of Pidjot, Lombok. Up to 22 M. Mud, coral and coralsand. 3 Spec.
Stat. 231. Amboina. Reef. 1 Spec.

The specimens belong to the darker variety with fine network, represented by the quoted figures. I think it is not probable that RUMPH's fig. 3 of Pl. 39 means this species, as v. MARTENS (Rumphius Gedenkboek p. 15) suggested with some doubt. I suppose RUMPH would not have omitted the red colour of the base of the columella. I possess a specimen of *O. textilina* Lam. from Amboina, that resembles much more fig. 3 of RUMPH's plate.

11. *Oliva rufofulgurata* Schepman. Pl. XVIII, fig. 1; Pl. XXII, fig. 1.

SCHEPMAN. Tijdschr. Ned. Dierk. Vereen. (2) Vol. VIII, p. 67.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 169. Atjatuning, West coast of New Guinea. 57 M. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 7 Spec.
Stat. 260. Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 3 Spec.

Shell cylindrically-oblong, slightly inflated near the upper part of last whorl, very glossy, smooth, yellowish, with narrow, rather distant, rufous fulgurations, leaving a narrow pale zone without markings, below the suture. Spire short, conical, apex blunt, the nuclear whorls rose-coloured in fresh specimens. Whorls 7, rounded, post-embryonic ones callous, with faint traces of the rufous streaks. Sutures widely channelled. Aperture oblong, narrow and channelled above, becoming gradually wider below, the upper angle narrower by a callosity on the body-whorl. Interior light violet. Outer lip rather sharp and curved above, thick and nearly straight near the middle and below. Columellar lip slightly callous in adult specimens, with about 25 folds of which the upper 17 are rather short, the lower ones nearly reach the shallow basal sinus.

Alt. 22, lat. $14^1/_2$; apert. alt. $17^1/_2$, lat. $2^1/_4$ Mill.

This nice new species is by its peculiar colour-pattern, quite different from any known species. *O. rufula*, which has about the same shape, has brown markings of a totally different character. The relatively large number of specimens, from different localities, may plead for its validity.

12. *Oliva dubia* Schepman. Pl. XVIII, fig. 2; Pl. XXII, fig. 2.

SCHEPMAN. Tijdschr. Ned. Dierk. Vereen. (2) Vol. VIII, p. 68.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 8 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 260. North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.

Shell small, cylindrically oblong, slightly narrower towards the base, very glossy, smooth, yellowish-brown, with more or less waved rufous lines and on last whorl a series of distant brown blotches, bordering the suture. Spire rather high, convexly conical, with a very blunt rosy apex. Whorls $5^1/_2$, the nuclear ones convex, the lower ones nearly flat, slightly callous. Sutures deep, widely channelled. Aperture oblong, rather blunt at the upper part, gradually enlarged below, with a large canal above; interior violet, outer margin nearly straight, moderately thickened, basal sinus wide. Collumellar lip smooth above, with about 7 plaits towards the base.

Alt. 13, lat. $4^2/_3$; apert. alt. $10^1/_2$, lat. $1^1/_2$ Mill.

I have named this species *dubia*, because it has a somewhat juvenile appearance, as however the specimens of the three localities vary little in size and shape, it may also be that no larger specimens exist.

13. *Oliva australis* Duclos.

DUCLOS. Chenu. Illustr. Conch. Oliva, p. 14, Pl. 9, fig. 3, 4; Pl. 10, fig. 13—16.
REEVE. Conch. Ic. Vol. VI, Oliva, fig. 42.
MARRAT. Thes. Conch. Vol. IV, p. 10, Pl. 6, fig. 85—88.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 82, Pl. 22, fig. 3, 4.
TRYON. Man. of Conch. Vol. V, p. 85, Pl. 32, fig. 19, 20.

Stat. 60. Haingsisi, Samau-island, Timor. 23 M. 2 Spec.

14. *Oliva nitidula* Duclos.

DUCLOS. Chenu. Illustr. Conch. Oliva, p. 13, Pl. 11, fig. 3, 4.
MARRAT. Thes. Conch. Vol. IV, Oliva, p. 11, Pl. 6, fig. 90, 91.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 83 (*paxillus* var.).
TRYON. Man. of Conch. Vol. V, p. 86, Pl. 32, fig. 23 (*paxillus* var.).

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.

As the specimen is smaller and not so broadly shouldered as *O. paxillus* Rve., but agrees in these respects with the species of DUCLOS, I have left it separate, though it is no doubt nearly allied.

15. *Oliva panniculata* Duclos.

DUCLOS. Chenu. Illustr. Conch. Oliva, p. 12, Pl. 6, fig. 15—18.
REEVE. Conch. Ic. Vol. VI, Oliva, fig. 77.
MARRAT. Thes. Conch. Vol. IV, Oliva, p. 10, Pl. 6, fig. 83, 84.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 84, Pl. 22, fig. 10—12.
TRYON. Man. of Conch. Vol. V, p. 86, Pl. 32, fig. 24, 25.

Stat. 60. Haingsisi, Samau-island, Timor. 23 M. 1 Spec.
Stat. 66. Between islands of Bahuluwang and Tambolungan, south of Saleyer. 8—10 M. Dead coral, Halimeda, Lithothamnion. 2 Spec.

One of the specimens from Stat. 66 has two darkbrown bands in the aperture and I think this is also the case with the other one, but the aperture is too much filled by the

animal, to be certain of this. If constant this form might receive a varietal name. In my specimens from the Seychelles, I find no trace of these bands.

16. *Oliva ispidula* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 730, N$^0$ 351.
RUMPH. Amb. Rariteitkamer, p. 120, Pl. 39, fig. 7.
REEVE. Conch. Ic. Vol. VI, Oliva, fig. 34.
MARRAT. Thes. Conch. Vol. IV, Oliva, p. 22, Pl. 16, fig. 240—254.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 34, Pl. 4, fig. 1—4, 6—10, 15, 16, 18, 19.
TRYON. Man. of Conch. Vol. V, p. 86, Pl. 33, fig. 34—43, 29, 38.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.

The only specimen of this common species is of a yellowish brown colour, with fine grey and coarser blackbrown ziczac streaks.

17. *Oliva lepida* Duclos.

DUCLOS. Chenu. Illustr. Conch. Oliva, p. 28, Pl. 27, fig. 15—20; (Pl. 29, fig. 19—20 *athenia*).
REEVE. Conch. Ic. Vol. VI, Oliva, fig. 60*a*, *b* (*carneola* var.).
MARRAT. Thes. Conch. Vol. IV, Oliva, p. 19, Pl. 15, fig. 218, 219; Pl. 25, fig. 474.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 91, Pl. 21, fig. 5, 8, 9, 12.
TRYON. Man. of Conch. Vol. V, p. 87, Pl. 33, fig. 48 (*sidelia* var.).

Stat. 248. Rumah Lusi, North point of Tiur-island. Till 54 M. 2 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.

I think REEVE goes too far in uniting this species with *O. carneola*. I have quoted TRYON's figure because he states that fig. 48 of his plate should be referred to the species under consideration; his figure is very rude and to me not recognizable. The specimens from Stat. 313 are less characteristic, but perfectly agree with specimens from the Andamans.

18. *Oliva carneola* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3443.
RUMPH. Amb. Rariteitkamer, p. 120, Pl. 39, fig. 8.
REEVE. Conch. Ic. Vol. VI, Oliva, fig. 60*c*, *d*, *e*.
MARRAT. Thes. Conch. Vol. IV, Oliva, p. 20, Pl. 15, fig. 233—235.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Oliva, p. 27, Pl. 6, fig. 10, 11.
TRYON. Man. of Conch. Vol. V, p. 87, Pl. 33, fig. 52.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 5 Spec.
Stat. 123. North-bay, Biaru-island. 36—27 M. Stone and Lithothamnion-bottom. 3 Spec.
Stat. 184. Kampong Kelang, South-coast of Manipa-island. 36 m. Coral, sand. 4 Spec.
Stat. 231. Amboina. Reef. 2 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 8 Spec.
Stat. 248. Rumah Lusi, North point of Tiur-island. Till 54 M. 3 Spec.
Stat. 279. Rumah-Kuda-bay, Roma-island. 36 M. Mud and sand. 3 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. 22 M. 2 Spec.

Very variable, many of the specimens belong to the colour-variety, represented by

WEINKAUFF, orange red with 2 white bands, others are more or less mottled; it seems rather difficult to separate in every case such specimens from the former species, especially if they are young, the spire of *O. lepida* however seems always to be more acuminate. I think fig. 8 of RUMPH (l. c.) represents this species; one of the specimens from Stat. 248, which is white, could have served as the type for this figure, which is however reversed, like many of RUMPH's figures, the description of the "kleine glimmertjes" seems to cover more than one species.

19. *Oliva ceramensis* Schepman. Pl. XVIII, fig. 3; Pl. XXII, fig. 3.

SCHEPMAN. Tijdschr. Ned. Dierk. Vereen. (2) Vol. VIII, p. 68.

Stat. 174. Waru-bay, North coast of Ceram. 18 M. Mud. 5 Spec.

Shell small, cylindrically-ovate, slightly swollen near the upper part, smooth, glossy, with concentric grey and yellow zones, marked by a purple brown network, with darker triangular spots. Spire very short, apex dark brown, spire quite or nearly concealed by a callous deposit. Number of whorls unknown on account of the callosity. Sutural channel wide but not deep. Aperture oblong, nearly straight above and near the middle, curved and widened below, channelled in the upper angle. Interior dark purple-brown; outer margin very thick, slightly curved at the extremities; basal sinus rather narrow and deep; columellar margin straight above, strongly curved below, with about 18 folds, upper ones coarse and short, followed by 3 folds, which are much stronger and prominent, those near the sinus are again very small.

Alt. 14, lat. $7^1/_2$; apert. alt. $11^1/_2$, lat. $1^1/_2$.

By its shape and size this species is allied to the preceding one, but its colour is quite different from any variety of *O. carneola*.

20. *Oliva (Agaronia) subulata* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 626.
REEVE. Conch. Ic. Vol. VI, Oliva, fig. 33*d*.
MARRAT. Thes. Conch. Vol. IV, Oliva, p. 25, Pl. 20, fig. 319, 320 (*acuminata*).
WEINKAUFF. Martini-Chemn. Conch Cab. Ed. II, Vol. V, Oliva, p. 57, Pl. 3, fig. 9, 10; Pl. 19, fig. 5—7; Pl. 22, fig. 6.
TRYON. Man. of Conch. Vol. V, p. 89, Pl. 35, fig. 71 (*acuminata* var.)

Stat. 296. Noimini-bay, South coast of Timor. 8—36 M. Sandy mud. 1 Spec.

This species has been united by TRYON to *acuminata* Lam., the only specimen better agrees with the quoted figures of *O. subulata* in Martini-Chemn. Conch. Cab. Ed. I, than with those of *acuminata*.

## Olivella Swainson.

1. *Olivella leucozonias* Gray.

GRAY. Zool. Beechey's Voy. p. 136, Pl. 36, fig. 24.
REEVE. Conch. Ic. Vol. VI, Oliva, fig. 67.
MARRAT. Thes. Conch. Vol. IV, p. 30, Pl. 25, fig. 450, 451.

WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, p. 137, Pl. 35, fig. 11, 12 (*pulchella*).
TRYON. Man. of Conch. Vol. V, p. 69, Pl. 16, fig. 16, 17.

Stat. 59. Western entrance of Samau-strait. 390 M. Coarse coralsand with small stones. 2 Spec.
Stat. 98. 6° 9′ N., 120° 21′ E. Sulu-archipelago. 350 M. Sand. 1 Spec.
Stat. 256. 5° 26′.6 S., 132° 32′.5 E. Near Kei-islands. 397 M. Greyish green mud. 3 Spec.

The specimens seem to be more or less faded, though one from Stat. 59 contains the soft parts. I suppose TRYON is right when he writes (l. c. p. 71) dealing with *O. pulchella* Duclos: WEINKAUFF considers it (*pulchella*) identical with *O. leucozonias* Gray, with which it appears to me to have but little in common.

2. *Olivella* sp.

Stat. 95. 5° 43′.5 N., 119° 40′ E. Sulu-archipelago. 522 M. Stony bottom. 1 Spec.

A bleached and broken shell, which is much thicker than the preceding species, could not be identified, being in too bad condition.

## **Ancilla** Lamarck.

1. *Ancilla ampla* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3467.
KIENER. Coq. Viv. Vol. I, Ancillaria, p. 25, Pl. 5, fig. 4.
REEVE. Conch. Ic. Vol. XV, Ancillaria, fig. 27, (fig. 46 *cylindrica*).
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ancillaria, p. 23, Pl. 7, fig. 7, 9.
TRYON. Man. of Conch. Vol. V, p. 94, Pl. 2, fig. 23, 24.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South Fort. 55 M. Mud, with patches of fine coralsand. 1 Spec.
Stat. 66. Bank between islands of Bahuluwang and Tambolungan, South of Saleyer. 8—10 M. Dead coral, Halimeda, Lithothamnion. 1 Spec.

If one has only young specimens at hand, as is the case with the 3 Siboga-specimens, one can conceive that SOWERBY made at new species *A. cylindrica* of them, but after comparison I can agree with the authors who consider them as young ones of *A. ampla*. The Siboga-specimens have no: "red-stained spire", as the type, according to REEVE's statement (l. c. fig. 46), should possess, but this is in my opinion a very insignificant difference.

2. *Ancilla scaphella* Sowerby.

SOWERBY. Thes. Conch. Vol. III, Ancillaria, Pl. 2, fig. 37, 38.
REEVE. Conch. Ic. Vol. XV, Ancillaria, fig. 26.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ancillaria, p. 39, Pl. 12, fig. 5, 6.
TRYON. Man. of Conch. Vol. V, p. 96, Pl. 39, fig. 53 (*mauritiana* var.).

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.

I think this species will be more nearly allied to the preceding one than to *A. mauritiana*, of which species it should be, according to TRYON, a miniature shell. In this latter species the

basal part is not divided by a groove, which is present in the figures and in the Siboga-specimen. The specimen is small.

3. *Ancilla australis* Sowerby.

SOWERBY. Species Conch. Vol. I, part I, Ancillaria, p. 7, fig. 44—46.
KIENER. Coq. Viv. Vol. I, Ancillaria, p. 9, Pl. 5, fig. 2, 3.
REEVE. Conch. Ic. Vol. XV, Ancillaria, fig. 7, (fig. 48 *tricolor*).
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ancillaria, p. 15, Pl. 5, fig. 3, 4; Pl. 6, fig. 7, 8; p. 18, Pl. 7, fig. 1, (p. 40, Pl. 12, fig. 9 *tricolor*).
TRYON. Man. of Conch. Vol. V, p. 94, Pl. 38, fig. 28, 30.

Stat. 312. Saleh-bay, East coast of Sumbawa. 274 M. Fine, sandy mud. 1 Spec.

The specimen is very young and agrees with the figures and descriptions of *A. tricolor* Gray. I can but agree with WEINKAUFF's remarks, who dealing with this latter species says: "SOWERBY bemerkt zu dieser Species: Diese prächtige kleine Schnecke mag wohl der Jugendzustand der *A. australis* sein. Bei Exemplaren dieser letztere Species, die noch nicht durch Callus verdeckt sind, bemerkt man das rothbraune und weisse Band auf den Spira, dass bei *A. tricolor* so deutlich ist. Man fragt sich billig, warum eine solche Species erhalten geblieben ist". Probably those authors who take it for a good species, have had no specimens of intermediate stages.

4. *Ancilla mamillata* Hinds.

HINDS. Voy. Sulphur. Moll. Pl. 11, fig. 7, 8.
REEVE. Conch. Ic. Vol. XV, Ancillaria, fig. 3*a—c*.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Ancillaria, p. 21, Pl. 6, fig. 5, 6.
TRYON. Man. of Conch. Vol. V, p. 94, Pl. 37, fig. 26 (*mucronata* var.).

Stat. 256. 5° 26'.6 S., 132° 32'.5 E. Near Kei-islands. 397 M. Greyish green mud. 1 Spec.

It is probable that the bad condition of the specimen accounts for the great depth at which it has been trawled. It agrees with fig. 3*c* of REEVE (l. c.) with its less developed callus. The colour has faded, the shell being uniformly brown, probably by the chemical action at the bottom.

5. *Ancilla Edgariana* n. sp. Pl. XVIII, fig. 4.

Stat. 178. 2° 40' S., 128° 37'.5 E. Ceram Sea. 835 M. Blue mud. 1 Spec.

Shell elongately ovate, lower whorls faintly yellowish white, with white enamel above and below, uppermost whorls porcellaneous-white, with traces of a brown line; whorls about 4, with a rather thick layer of enamel on the spire, filling and obliterating the suture; spire rather blunt, with convex outlines; sculpture of last whorl consisting of very fine growth-striae, only visible under a lens and traces of microscopical spiral striae, which on the enamel have the appearance of being scratched by an excessively fine needle; a sulcus runs just above the white balteus, ending in a trace of a tooth, which may be stronger in older specimens, a second sulcus runs at the basal part. Aperture elongate, outer margin very thin (young?) columellar margin with two folds; basal sinus moderately wide. Operculum corneous.

Alt. 9, lat. $3^{7}/_{8}$; apert. alt. 5, lat. $1^{3}/_{4}$ Mill.

Mr. SMITH who compared this species for me in the British Museum, writes about it: "closely allied to *A. inornata* Smith" (Proc. Zool. Soc. Lond. 1879, p. 217, Pl. 20, fig. 56), but according to that figure, my new species is more convex above, the spire consequently less acute, the basal sinus is narrower and it differs in colour. The great depth, combined with the different locality (*inornata* is from Japan) may argue in favour of the distinctness and give more value to the differences in the shells. I have named the species after Mr. SMITH's christian-name.

6. *Ancilla abyssicola* n. sp. Pl. XVIII, fig. 5.

Stat. 88. 0° 34'.6 N., 119° 8'.5 E. Makassar-strait. 1301 M. Fine grey mud. 5 Spec.

Shell acuminately-oval, whitish, yellowish on the last whorl, with traces of brown lines at the suture and balteus; thin, pellucid, spire conic, blunt at the apex, which is porcellaneous; whorls about 4, sutures with a strong layer of enamel, filling them up, sides of spire nearly straight, the greatest convexity of the shell laying in its lower part. Sculpture consisting of fine growth-striae, coarser near the aperture and very fine spiral striae, one sulcus above the undivided, white balteus. No tooth. Aperture oval, right margin thin, columellar margin arched. with a rather strong layer of enamel on the body-whorl and a few short folds near the base. Sinus broad and shallow.

Alt. $13^{2}/_{5}$, lat. 6; apert. alt. $6^{1}/_{2}$, lat. 3 Mill.

I know no species with which to compare this new one, amongst the lot now at hand *A. oblonga* Sow. is similar in the columellar folds, but differs in every other particular; I find in litterature no closely allied species.

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Fam. HARPIDAE.

**Harpa** Lamarck.

1. *Harpa nobilis* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 132.
RUMPH. Amb. Rariteitkamer, p. 104, Pl. 32, fig. L.
KIENER. Coq. Viv. Vol. VII, Harpa, p. 9, Pl. 3, fig. 5.
REEVE. Conch. Ic. Vol. I, Harpa, fig. 1.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Harpa, p. 89, Pl. 67, fig. 1—3.
TRYON. Man. of Conch. Vol. V, p. 99, Pl. 41, fig. 68.

Stat. 96. South-east side of Pearl-bank, Sulu-archipelago. 15 M. Lithothamnion. 1 Spec.

Still young but easily recognizable.

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## Fam. Marginellidae.

### **Marginella** Lamarck.

1. *Marginella virgo* n. sp. Pl. XVIII, fig. 6.

Stat. 211. 5° 100′7 S., 120° 45′.5 E. Banda Sea. 1158 M. Coarse grey mud. 1 Spec.

Shell ovately-fusiform, white, thin, pellucid, smooth and shining; spire conical, with very obtuse apex. Whorls about 5, nearly straight, with a callous suture, which is scarcely visible, slightly ascending near the aperture; last whorl rather broad above the middle, a little contracted below. Aperture elongate, its margin slightly expanded and thickened, smooth internally (perhaps on account of youth), columellar margin with 4 strong plicae of which the upper and next nearly horizontal, the third and fourth (bordering the sinus) very oblique. Sinus shallow, broad.

Alt. 9, lat. $4^1/_8$; apert. alt. $5^1/_2$, lat. $1^1/_2$ Mill.

Unfortunately the only specimen has a somewhat juvenile appearance, but as it is from a considerable depth and contains the soft parts, I thought it deserved to be described. Mr. E. A. Smith I.S.O., from the British Museum, who had the kindness to compare it, writes that it is allied to but not the same as *M. Walkeri* Smith (Proc. Mal. Soc. Lond. III, p. 208, fig. 1), but that shell has a much sharper spire, the general shape is less ventricose, the aperture is narrower. The circumstance that the outer margin of aperture is smooth in the new species, denticulated in *Walkeri*, may be of little importance, since it is possible even probable that *M. virgo* might exhibit the same character if perfectly developed.

2. *Marginella rufolineata* n. sp. Pl. XVIII, fig. 7.

Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coralbottom. 1 Spec.

Shell ovately-fusiform, white with two narrow, light rufous spiral lines on last whorl, of which the upper one runs just above the suture in the upper whorls, on the periphery in last whorl, the second line runs near the base of last whorl, making its appearance, just above the upper columellar fold; the shell is moderately strong, semipellucid, smooth and rather shining. Spire conical, with very obtuse apex, whorls about 5, nearly straight, with a slightly impressed callous suture, slightly ascending near the aperture; last whorl moderately convex at the periphery. Aperture elongate, its margin with a strong rounded varix exteriorly, interiorly thickened, with two rather strong teeth in the upper part and a few small ones (about 4) below these. Columellar margin with four strong plicae, of which the upper two nearly horizontal, the third more oblique, the fourth, bordering the shallow sinus, very oblique.

Alt. $7^1/_2$, lat. 4; apert. alt. 5, lat. $1^2/_5$ Mill.

This species is also allied to *M. Walkeri* Smith and still more to *M. virgo*, but it is thicker and less elongate than this latter species, the peristome is thickened, with some teeth interiorly, the colour is different and the sutures are much more conspicuous, the lower columellar plicae are less oblique, especially that bordering the sinus. Though some of these characters may depend on age, especially those of the peristome, I think they suffice to keep them separate. The shell is fresh and seems to have lived at the recorded depth.

3. *Marginella scripta* Hinds.

HINDS. Proc. Zool. Soc. Lond. 1844, p. 73.
REEVE. Conch. Ic. Vol. XV, Marginella, fig. 58.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Marginella, p. 53, Pl. 10, fig. 1, 4.
TRYON. Man. of Conch. Vol. V, p. 25, Pl. 7, fig. 19.

Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 16 Spec.
Stat. ? 4 Spec.

This fine species is somewhat variable in its markings. The ziczac lines are more or less strong and the dots indicating two bands are often wanting, with several intergrading patterns.

4. *Marginella abyssicola* n. sp. Pl. XVIII, fig. 8.

Stat. 211. 5°40'.7 S., 120°45'.5 E. Banda Sea. 1158 M. Coarse grey mud. 1 Spec.

Shell small, volutiform, white, thin, pellucid, smooth and very shining. Spire short, conical, with very obtuse apex; whorls about 4, slightly convex, with an indistinct suture, filled by enamel, shortly ascending near the aperture; last whorl convex, especially at the shoulder, roundedly triangular in the dorsal view. Aperture elongate, rather wide, its margin slightly expanded and thickened by a porcellaneous rim, angular above in the front view, arched in the lateral view; interior smooth. Columellar margin with 4 thin plicae, which are oblique, especially that bordering the conspicuous but not large basal sinus.

Alt. $5^1/_4$, lat. 3; apert. alt. 4, lat. $^7/_8$ Mill.

Allied to *M. laevigata* Braz. (Proc. Lin. Soc. N. S. W. 1877. p. 225) figured by HEDLEY (Australian Mus. Vol. IV, 1901, Pl. 16, fig. 5) which should be, according to the lastnamed author, the same as *M. valida* Wats. (Chall. Report. Zool. XV, 1886, p. 267, Pl. 16, fig. 3). If the new species does not differ only on account of youth, it may be at once distinguished by its smooth peristome; the columellar teeth, as figured by HEDLEY are more developed, his figure is broader, etc.

5. *Marginella (Cryptospira) tricincta* Hinds.

HINDS. Proc. Zool. Soc. Lond. 1844, p. 76.
REEVE. Conch. Ic. Vol. XV, Marginella, fig. 49.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Marginella, p. 45, Pl. 8, fig. 5, 8.
TRYON. Man. of Conch. Vol. V, p. 31, Pl. 9, fig. 71, 72.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 2 Spec.

The specimens are very small, though two of them are fullgrown with strongly developed margin of the aperture, the largest from Stat. 2 being only $13^1/_4$ Mill. in length, that from Stat. 7 scarcely 13 Mill.; in this latter specimen, the top is umbilicated, whereas in the young specimen accompanying it, a thin layer of enamel closes the spire.

6. *Marginella (Cryptospira) dactylus* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 442.
KIENER. Coq. Viv. Vol. II, Marginella, p. 28, Pl. 4, fig. 16.
REEVE. Conch. Ic. Vol. XV, Marginella, fig. 42.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Marginella, p. 48, Pl. 8, fig. 13, 16.
TRYON. Man. of Conch. Vol. V, p. 36, Pl. 10, fig. 7.

Stat. 2. Madura-strait. 56 M. Grey mud with some Radiolariae. 2 Spec.

The authors quoted above, record "patrie inconnue" (LAMARCK, KIENER) or Hongkong (HINDS, REEVE, WEINKAUFF, TRYON).

7. *Marginella (Persicula) pulchella* Kiener.

KIENER. Coq. Viv. Vol. II, Marginella, p. 27, Pl. 9, fig. 40.
REEVE. Conch. Ic. Vol. XV, Marginella, fig. 66.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Marginella, p. 56, Pl. 10, fig. 9, 12.
TRYON. Man. of Conch. Vol. V, p. 38, Pl. 11, fig. 25.

Stat. 104. Sulu-harbour, Sulu-island. 14 M. Sand. 1 Spec.

The specimen is an empty shell, but the beautiful lines and dots are well preserved.

8. *Marginella (Persicula) subflava* Preston.

PRESTON. Proc. Mal. Soc. Lond. Vol. VII, p. 35, fig. (woodcut).

Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coralbottom. 1 Spec.

The specimen is not in very good condition, its lower part seems to be a trifle more inflated, but in other respects it agrees sufficiently; it is nearly 6 Mill. in length and has 8 plaits on the columella; according to PRESTON it should be 6 Mill. and have 6 or 7 plaits, as he states however that "the specimens vary somewhat in size" and that his new species differs from *M. dens* Reeve in the much finer plaits of columella, denticulations of outer lip and by its cream-colour, *M. dens* being white, I think the identification is not very doubtful.

9. *Marginella (Volvaria) sordida* Reeve.

REEVE. Conch. Ic. Vol. XV, Marginella, fig. 137.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Marginella, p. 125, Pl. 24, fig. 3, 4.
TRYON. Man. of Conch. Vol. V, p. 54, Pl. 13, fig. 32.

Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coralbottom. 1 Spec.

A somewhat doubtful specimen of a doubtful species. It agrees however sufficiently with the description and with REEVE's figure, which represents however only a dorsal view, rather insufficient for such a small shell, with so little prominent characters. REEVE says: "of a simple character, but distinct from any other species". Such remarks really say nothing.

## Fam. Volutidae.

### Cymbium Montfort.

1. *Cymbium aethiopicum* Linné.

Linné. Syst. Nat. Ed. X, p. 733, N$^0$ 373.
Kiener. Coq. Viv. Vol. II, Voluta, p. 6, Pl. 5.
Reeve. Conch. Ic. Vol. XIII, Cymbium, fig. 1.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Voluta, p. 208, Pl. 39, fig. 3—5; Pl. 41, fig. 4.
Tryon. Man. of Conch. Vol. IV, p. 81, Pl. 23, fig. 17.

Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. Reef. 1 Spec.

The specimen belongs to the type as it is considered by most authors. Linné quotes Rumph, Amb. Rariteitkamer Pl. 31, fig. A. B., but according to v. Martens in his Rumphius Gedenkboek, p. 12, these figures should represent *C. regius* Schub. & Wagn. on account of the white patches mentioned by Rumph.

### Voluta Linné.

1. *Voluta vespertilio* Linné.

Linné. Syst. Nat. Ed. X, p. 733, N$^0$ 371.
Rumph. Amb. Rariteitkamer, p. 103, Pl. 32, fig. H.
Kiener. Coq. Viv. Vol. II, Voluta, p. 21, fig. 20.
Reeve. Conch. Ic. Vol. VI, Voluta, fig. 11 *a*.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Voluta, p. 197, Pl. 20, fig. 5; Pl. 22, fig. 1—3; Pl. 28, fig. 7, 8.
Tryon. Man. of Conch. Vol. IV, p. 86, Pl. 25, fig. 43, 44.

Stat. 79$^b$. Pulu Kabala-dua, Borneo-bank. Reef. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.

The specimen from Stat. 193 is quite typical, that from Stat. 79$^b$ is allied to the next variety.

var. *pellis serpentis* Lamarck.

Lamarck. An. s. vert. Ed. II, Vol. X, p. 386.
Rumph. Amb. Rariteitkamer, p. 103, Pl. 32, fig. 3.
Kiener. Coq. Viv. Vol. II, Voluta, p. 22, Pl. 23.
Reeve. Conch. Ic. Vol. VI, Voluta, fig. 11 *d*.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Voluta, p. 192, Pl. 36, fig. 3.
Tryon. Man. of Conch. Vol. IV, p. 86, Pl. 25, fig. 46.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 78. Lumu-Lumu-shoal, Borneo-bank. 34 M. Coral and coralsand. 1 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion-bottom. Sand and coral. 6 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 2 Spec.
Stat. 213. Pulu Pasi near Saleyer. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 3 Spec.
Stat. 250. Kilsuin, West-coast of Kur-island. Reef. 2 Spec.
Stat. 279. Ruma-Kuda-bay, Roma-island. Reef. 1 Spec.
*Java N. A. M. 5 Spec.

## Fam. CANCELLARIDAE.

### **Cancellaria** Lamarck.

1. *Cancellaria (Merica) nassoides* n. sp. Pl. XVIII, fig. 9.

Stat. 256. 5° 26'.6 S., 132° 32'.5 E. Near Kei-islands. 397 M. Greyish green mud. 1 Spec.

Shell elongately-ovate, imperforate, spire elongately-turreted, dull brown. Whorls $7^1/_2$, convex, separated by a very deep suture; two apical whorls smooth, subsequent whorls first with 3 strong, spiral lirae and thinner intermediate ones; there are four lirae on the penultimate whorl and 6 intermediate ones, of which 2 at the suture. The lirae are crossed by more remote rounded ribs, having sometimes the appearance of varices, 17 in number on last whorl, the lirae form small nodules in crossing the ribs. Moreover the shell is covered with fine striae, crossing the lirae and rendering them slightly crenulate. Aperture small, ovate; outer lip regularly arched, with 7 short lirae, at some distance from the margin. Columellar margin with a thin, yellowish white layer of enamel, not concealing the sculpture, with 3 strong plaits of which the upper ones not very oblique, with a perpendicular fold, at about a right angle with the plaits; basal plait more oblique, bordering the large, shallow sinus. No umbilicus but an umbilical chink.

Alt. $16^1/_2$, lat. 10; apert. alt. 7, lat. $4^1/_2$ Mill.

I know with species with which to compare this new one; if seen on the dorsal side, one might take it for a *Nassa*. As the only specimen is a dead shell, I am not certain that it has really lived at the recorded depth.

2. *Cancellaria (Narona) macrospira* Adams and Reeve.

ADAMS & REEVE. Voy. Samarang. Moll. p. 41, Pl. 10, fig. 2.
REEVE. Conch. Ic. Vol. X, Cancellaria, fig. 50.
LÖBBECKE. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Cancellaria, p. 56, Pl. 16, fig. 7, 8.
TRYON. Man. of Conch. Vol. VII, p. 76, Pl. 4, fig. 67.

Stat. 153. 0° 3'.8 N., 130° 24'.3 E. Bougainville-strait. 141 M. Fine sand, coarse sand with dead shells. 1 Spec.

The specimen is still small; as it is quite fresh and even seems to contain part of the soft parts, it has probably lived at the considerable depth.

3. *Cancellaria (Trigonostoma) bicolor* Hinds.

HINDS. Zool. Voy. Sulphur. Moll. p. 43, Pl. 12, fig. 13, 14.
REEVE. Conch. Ic. Vol. X, Cancellaria, fig. 29.
LÖBBECKE. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Cancellaria, p. 87, Pl. 22, fig, 3, 4.
TRYON. Man. of Conch. Vol. VII, p. 79, Pl. 5, fig. 86; Pl. 6, fig. 89, 90.

Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.

The only specimen is of a light colour, probably bleached, and has a rather juvenile appearance, the peristome being thin, the teeth in the upper part of aperture are wanting; as

moreover TRYON (l. c.) has some doubt about the identity of the quoted figures, I asked the advice of Mr. E. A. SMITH, who judged it could not be separated from *C. bicolor* Hinds.

4. *Cancellaria (Trigonostoma) antiquata* Hinds.

HINDS. Zool. Voy. Sulphur. Moll. p. 43, Pl. 12, fig. 17, 18.
REEVE. Conch. Ic. Vol. X, Cancellaria, p. 74.
LÖBBECKE. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Cancellaria, p. 57, Pl. 16, fig. 9, 10.
TRYON. Man. of Conch. Vol. VII, p. 79, Pl. 5, fig. 58.

Stat. 2. Madura-strait. 56 M. Grey mud, with some radiolariae. 1 Spec.

This specimen is still very small but characteristic, by its large umbilicus; a few spiral lirae, also recorded by SOWERBY and LÖBBECKE, are distinctly visible.

5. *Cancellaria (Trigonostoma) obliquata* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 408.
KIENER. Coq. Viv. Vol. V, Cancellaria, p. 21, Pl. 61, fig. 2.
REEVE. Conch. Ic. Vol. X, Cancellaria, fig. 61.
LÖBBECKE. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Cancellaria, p. 60, Pl. 17, fig. 4, 5.
TRYON. Man. of Conch. Vol. VII, p. 81, Pl. 6, fig. 1.

Stat. 231. Amboina. 40 M. Coralsand. 1 Spec.

6. *Cancellaria (Trigonostoma) lamellosa* Hinds.

HINDS. Zool. Voy. Sulphur. Moll. p. 43, Pl. 12, fig. 15, 16.
REEVE. Conch. Ic. Vol. X, Cancellaria, fig. 65.
LÖBBECKE. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Cancellaria, p. 55, Pl. 16, fig. 5, 6.
TRYON. Man. of Conch. Vol. VII, p. 80, Pl. 6, fig. 98 (*crenifera* pars).

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.

TRYON (l. c.) declares this form to be merely a synonym of *C. crenifera*, but this seems to go too far, it will be always separable by its lamellose ribs, which in the specimen from Stat. 33 are often varix-like, even nearly without exception on the last whorl, which has the brown blotches below the shoulder. If specimens are slightly rubbed and if the ribs are relatively thin, the distinction may be difficult. But at least it will be a well-marked variety.

7. *Cancellaria (Trigonostoma) crenifera* Pl. XXIII fig. 1.

SOWERBY. Conch. Ill. fig. 29.
—— Thes. Conch. Vol. II, Cancellaria, Pl. 96, fig. 84, 86.
REEVE. Conch. Ic. Vol. X, Cancellaria, fig. 24.
LÖBBECKE. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Cancellaria, p. 9, Pl. 1, fig. 13—16.
TRYON. Man. of Conch. Vol. VII, p. 80, Pl. 6, fig. 97.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 2 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 m. Sand, coral and mud. 3 Spec.

The specimens sufficiently agree with the figures of SOWERBY (Thes. Conch.) copied by TRYON, better than with the other quoted figures. The genus, after TROSCHEL's researches on the radula has been commonly classified amongst the *Toxoglossa*. PELSENEER: Introduction a l'étude des Mollusques, in: Ann. de la Soc. Roy. Malac. de Belgique, Tome 27, 1892, p. 129, has located the genus as a family between the *Volutidae* and *Muricidae*, consequently amongst the *Rachiglossa*. Now in 1903 Dr. THIELE (Die beschalten Gastrop. der deutschen Tiefsee-Exp. 1898—1899, p. 171) has found that the radula has only one row of teeth and no poison-gland, and concluded that the genus should be located near *Voluta*. I have followed this view, though not without doubt. I found an object agreeing in general appearance with what THIELE (l. c. p. 172) has described as the maxilla, but the point is much longer and the basal wings are less developed than in THIELE's figure (l. c. Pl. 9, fig. 69); it seems likewise to consist of two cohering lateral parts and is very finely striated, as is the case in THIELE's figure (l. c. Pl. 7, fig. 69*a*). The shape is shown in my plate, though I must confess, that it is merely a sketch, as the object had suffered by boiling and was broken when I examined it. As to the radula, I have found another complex, agreeing with the description of TROSCHEL as far as concerns the separate elements, called teeth by TROSCHEL (Gebiss der Schnecken, Vol. II, p. 45, Pl. 4, fig. 11—13); their arrangement in the Siboga specimen has however more the appearance of consisting of two lateral rows, at least they lay nearly spread into two bundles, one towards the left the other towards the right side of a central line and at first give more the impression of being the two halves of a widely expanded maxilla than of a radula.

8. *Cancellaria (Trigonostoma) textilis* Kiener.

KIENER. Coq. Viv. Vol. V, Cancellaria, p. 10, Pl. 7, fig. 1.
REEVE. Conch. Ic. Vol. X, Cancellaria, fig. 28.
LÖBBECKE. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Cancellaria, p. 34, Pl. 10, fig. 5—8.
TRYON. Man. of Conch. Vol. VII, p. 81, Pl. 6, fig. 3 (*scalata* pars).

Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.

The specimen being very young and small, I could not identify it. Mr. SMITH after comparing it with the British Museum-specimens, writes: "I think it must be the young of *textilis* Kiener".

9. *Cancellaria (Trigonostoma) Verreauxi* Kiener.

KIENER. Coq. Viv. Vol. V, Cancellaria, p. 17, Pl. 8, fig. 3.
REEVE. Conch. Ic. Vol. X, Cancellaria, fig. 59.
LÖBBECKE. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Cancellaria, p. 69, Pl. 18, fig. 7, 8.
TRYON. Man. of Conch. Vol. VII, p. 82, Pl. 7, fig. 15.

Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.

The specimen is rather small, having a total length of only 12 Mill.

## Fam. Mitridae.

### Mitra Lamarck.

1. *Mitra episcopalis* Linné.

Linné. Syst. Nat. Ed. X, p. 732, N⁰ 368.
Rumph. Amb. Rariteitkamer, p. 97, Pl. 29, fig. K.
Kiener. Coq. Viv. Vol. II, Mitra, p. 3, Pl. 1, fig. 1.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 35, Pl. 7, fig. 9, 10.
Reeve. Conch. Ic. Vol. II, Mitra, fig. 5.
Sowerby. Thes. Conchyl. Vol. IV, Mitra, p. 2, Pl. 1, fig. 3.
Tryon. Man. of Conch. Vol. IV, p. 111, Pl. 32, fig. 1.

Stat. 225°. Lucipara-island. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

Both shells are empty; that from Stat. 234 is quite fresh and still provided with its yellowish epidermis.

2. *Mitra cardinalis* Gmelin.

Gmelin. Syst. Nat. Ed. XIII, p. 3458.
Kiener. Coq. Viv. Vol. II, Mitra, p. 4, Pl. 3, fig. 6.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 38, Pl. 7, fig. 3, 4.
Reeve. Conch. Ic. Vol. II, Mitra, fig. 26.
Sowerby. Thes. Conchyl. Vol. IV, Mitra, p. 3, Pl. 3, fig. 32.
Tryon. Man. of Conch. Vol. IV, p. 111, Pl. 32, fig. 4.

Stat. 250. Near Kilsuin, West coast of Kur-island. 8 to 45 M. Coral and Lithothamnion. 1 Spec.

3. *Mitra papalis* Linné.

Linné. Syst. Nat. Ed. X, p. 732, N⁰ 369.
Rumph. Amb. Rariteitkamer, p. 96, Pl. 29, fig. I.
Kiener. Coq. Viv. Vol. II, p. 8, Pl. 2, fig. 3.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 36, Pl. 7, fig. 1, 2.
Reeve. Conch. Ic. Vol. II, Mitra, fig. 9.
Sowerby. Thes. Conchyl. Vol. IV, Mitra, p. 2, Pl. 1, fig. 6, 7.
Tryon. Man. of Conch. Vol. IV, p. 111, Pl. 32, fig. 2.

Stat. 142. Laiwui, coast of Obi Major. 23 M. Mud. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

4. *Mitra pontificalis* Lamarck.

Lamarck. An. s. vert. Ed. II, Vol. X, p. 300.
Kiener. Coq. Viv. Vol. II, Mitra, p. 7, Pl. 1, fig. 2.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 39, Pl. 7, fig. 6, 7.
Reeve. Conch. Ic. Vol. II, Mitra, fig. 23.

SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 2, Pl. 1, fig. 1, 2.
TRYON. Man. of Conch. Vol. IV, p. 111, Pl. 32, fig. 3.

Stat. 225c. Lucipara-island. Reef. 1 Spec.

5. *Mitra luctuosa* A. Adams.

ADAMS. Proc. Zool. Soc. Lond. 1851, p. 133.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 19, Pl. 14, fig. 229; Pl. 20, fig. 406.
TRYON. Man. of Conch. Vol. IV, p. 151, Pl. 44, fig. 298.

Stat. 282. Between Nusa Besi and N.E.-point of Timor. 27—54 M. Sand, coral and Lithothamnion. 2 Spec.

The specimens are still young and small, they agree however rather well with SOWERBY's fig. 406, but are much darker.

6. *Mitra Marionae* Melvill. Pl. XXII, fig. 4.

MELVILL. Journ. of Conch. Vol. V, 1888, p. 281, Pl. 2, fig. 11.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.

The only specimen of this very fine species is unfortunately not quite adult, a coloured figure has been given, on account of its exquisite beauty.

7. *Mitra incisa* Adams & Reeve.

ADAMS & REEVE. Voy. Samarang, p. 27, Pl. 10, fig. 31.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 3, Pl. 16, fig. 292, 293.
TRYON. Man. of Conch. Vol. IV, p. 114, Pl. 33, fig. 20.

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 20 Spec.

8. *Mitra Mariae* A. Adams. Pl. XXIII, fig. 2.

ADAMS. Proc. Zool. Soc. Lond. 1851, p. 140.
SMITH. Proc. Zool. Soc. Lond. 1878, p. 813, Pl. 50, fig. 14.
TRYON. Man. of Conch. Vol. IV, p. 114, Pl. 33, fig. 21 (*incisa*).
MELVILL. Proc. Mal. Soc. Lond. 1897, p. 168, Pl. 13, fig. 8.

Stat. 240. Banda. 9—45 M. Black sand, coral and Lithothamnion. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.

I can quite agree with Mr. SMITH's view (l. c.) after comparing this and the preceding species, that they can be separated; amongst the rather numerous specimens of *incisa*, I found not one that could be taken for *M. Mariae*. The largest specimen from Stat. 313, having a length of 23 Mill. is quite fullgrown, with a well developed, peristome, and though the words of ADAMS: "labro intus sulcato" may be exaggerated, the crenulations are visible also on part of the inner surface of lip, especially towards the base.

The radula has 32 or 33 rows of teeth; the base of the median tooth (M) is nearly straight

anteriorly, curved behind, with 10 cusps, of which the median 4 ones are very long, with a shorter one, followed by two very short denticles one each side, they all are considerably longer than the base. The laterals (1) are comparatively narrow, with a strongly curved base and one very large cusp and five much smaller ones, becoming gradually smaller towards the proximal end. These teeth are very different from those figured by TROSCHEL especially the long cusp of the laterals give a very peculiar character to those teeth.

9. *Mitra xerampelina* Melvill.

MELVILL. Proc. Mal. Soc. Lond. Vol. I, 1894, p, 223, Pl. 14, fig. 5.

Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion, sand and coral. 1 Spec.
Stat. 144. North of Salomakiëe-(Damar-)island. 45 M. Coral bottom and Lithothamnion. 1 Spec.

Both specimens are very young and were it not that Mr. MELVILL had identified that from Stat. 144 I should have been in doubt. MELVILL's specimens were from Aden.

10. *Mitra millepunctata* n. sp. Pl. XXII, fig. 5.

Stat. 98. 6° 9′ N., 120° 21′ E. Sulu-archipelago. 350 M. Sand. 1 Spec.

Shell elongately-fusiform, with a long, sharp spire nearly as long as the dorsal part of last whorl. Nucleus wanting, remaining whorls 8, slightly convex, separated by a well-marked, slightly crenulated suture. Sculpture consisting of spiral grooves, which are distinctly punctured, about 15 grooves on last whorl and 4 intermediate rows of punctures in the interstices 3 to 6, moreover very fine growth-striae, somewhat coarser, nearly groove-like at the punctures are visible under the lens. The whole shell is ivory-white, with a row of subsquare yellowish-brown spots below the suture, 8 in number on last whorl; the majority of the punctured grooves, especially on the last whorl, is of the same colour. Aperture much broken, probably narrow, the intact upper part not very sharp, smooth, columella slightly curved, with 5 oblique plaits, interior white.

Alt. 23, lat. $7^{3}/_{4}$; apert. alt. about 10 Mill.

Though this shell is much injured, it has such peculiar characters, that I thought it might be named and described, unfortunately it has not only a rather large hole, buth the lower portion of last part of last whorl is wanting, so the shape of aperture and the measurements are in some degree uncertain. In colour and also in shape, it has resemblance with *M. nivea* Swains., but Mr. E. A. SMITH, who compared it with that species writes: "Certainly *not nivea* Swains., which has much finer spiral sculpture.

11. *Mitra maesta* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 59.
—— Conch. Ic. Vol. II, Mitra, fig. 323.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 11, Pl. 26, fig. 595.
TRYON. Man. of Conch. Vol. IV, p. 143, Pl, 42, fig. 226.

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 4 Spec.

One of the specimens is white-banded on last whorl, but else quite typical, I cannot conceive how TRYON (l. c.) came to the conclusion that this species should have been described after a "distorted shell".

12. *Mitra Sibogae* n. sp. Pl. XVIII, fig. 10.

Stat. 95. 5°43′.5 N., 119°40′ E. Sulu-archipelago. 522 M. Stony bottom. 1 Spec.
Stat. 251. 5°28′.4 S., 132°0′.2 E. Arafura Sea. 204 M. Hard coralsand. 1 Spec.

Shell elongately fusiform, with long spire, being on dorsal view as long as last whorl. Nucleus partly wanting. Whorls 9, slightly convex, separated by a strongly marked, slightly crenulated suture, which is nearly excavated. Colour uniformly brownish-yellow, sculpture consisting of flat lirae, separated by narrower grooves, which are coarsely punctured or pitted, 6 to 7 grooves on penultimate whorl, about 22 on last whorl, of which the basal ones are but indistinctly punctured. Moreover the whole shell is covered with growth-striae and especially on the upper whorls with radiating ribs, less conspicuous on lower whorls. Aperture narrow, with rather sharp, slightly undulating margin, smooth interiorly, columellar margin with 4 distinct plicae.

Alt. 20, lat. $6^1/_8$; apert. alt. 9, lat. $2^1/_2$ Mill.

This description has been made after the specimen from Stat. 251, that from Stat. 95 is a younger, dead, rather broken shell, though it seems to be narrower; I think it will be the same species. This new species seems to be allied to *M. inquinata* Reeve (Conch. Ic. fig. 29) but is much smaller, with, according to figure, much coarser punctures, more convex whorls and it differs also in colour.

13. *Mitra albocoronata* n. sp. Pl. XXII, fig. 6.

Stat. 77. Borneo-bank. 59 M. Fine grey coralsand. 1 Spec.
Stat. 162. Between Loslos and Broken-islands, West-coast of Salawatti. 18 M. Coarse and fine sand, with clay and shells. 1 Spec.

Shell fusiform, with moderately long spire, being on dorsal view, shorter than last whorl. Nucleus wanting, remaining whorls 8, slightly convex, separated by a strongly marked suture, which is slightly crenulate. Colour (in the fresh specimen) dark olive-brown with a yellowish-white band at some distance below the suture and white spots at somewhat irregular intervals, crossing the space between the band and suture (about 10 on last whorl); moreover a few scattered white spots near the base of last whorl. Shell rather smooth, sculptured by spiral rows of punctures in very shallow grooves, about 9 on penultimate whorl, (base conspicuously grooved) and very fine growth-striae. Aperture rather narrow, with slightly crenulated peristome, columellar margin with 4 strong plicae, which are white on a brown wall. Interior of aperture bluish.

Alt. 28, lat. 10; apert. alt. $13^1/_2$, lat. ? Mill.

Alt. 23, lat. $8^1/_2$; apert. alt. 11, lat. $3^1/_2$ Mill.

Two specimens belong to this species; the largest, broken at the aperture and bleached

is reddish-brown, with the white markings more conspicuous than in the smaller specimen from Stat. 261. The white subsutural spots remind in some degree *M. coronata* Lam. Mr. MELVILL who had the kindness to examine the larger specimen, writes about it: "allied in sculpture and markings to *picta* Reeve (Cape of Good Hope) but differing in form. I can hardly consider it a form of *variabilis* Rve, though allied. Nor is it *M. Cookii* Hanley with which I have compared it. I do not know *M. fulgurita* Rve, with which it is perhaps comparable". Under these circumstances I thought it fit, to describe it as new, as it did not sufficiently agree with any of these species.

14. *Mitra simplicissima* n. sp. Pl. XVIII, fig. 11 *a*, *b*.

Stat. 137. Channel between Makjan and Halmaheira. 472 M. Fine, dark muddy sand. 1 Spec.

Shell elongately fusiform, spire nearly half as long as the whole shell. Nucleus wanting, remaining whorls about 8, slightly convex, separated by a deep, undulated suture. Colour white, with a very faint yellowish band below the suture and another below the periphery. Sculpture consisting of rather distant ribs, 16 on penultimate whorl (wanting on last half whorl, after an accident) and a conspicuous spiral rib, at some distance from the suture, with a faint one between it and the suture; below the broad spiral rib runs a groove and lower on the whorls a few spiral striae are visible; towards the base and on the canal the shell is lirate. Aperture narrow, with thin peristome, smooth interiorly, columellar margin with 3 plicae, of which the upper one is very strong.

Alt. 22, lat. 7; apert. alt. 11, lat. 2 Mill.

var. *glabra* n. var. Pl. XVIII, fig. 11 *c*.

Stat. 178. 2°′40 S., 128°37′.5 E. Ceram Sea. 835 M. Blue mud. 1 Spec.

Sculpture much less developed, ribs fainter and of the spirals only traces of the large subsutural one are perceptible, base smooth, colour uniformly white.

This new species is not allied to anyone I know. Mr. MELVILL whom I consulted, writes: "A little like *M. tensa* Melv. (Journ. of Conch. V, p. 285, Pl. 2, fig. 21) which however is from the Antarctic Ocean or reported so. But it is quite distinct". The texture of the shell is quite that of deep water and polar species, the type, though captured alive, being slightly worn at the upper whorls; the whole shell has a somewhat corneous appearance.

15. *Mitra (Nebularia) fulva* Swainson.

SWAINSON. Zoöl. Ill. II, Pl. 30, fig. 1.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 24.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 20, Pl. 14, fig. 241, Pl. 27, fig. 615.
TRYON. Man. of Conch. Vol. IV, p. 148, Pl. 43, fig. 267 (*ambigua* var.).

Stat. 200. Bara-bay, North coast of Buru-island. Up to 54 M. Mud and stone. 1 Spec.
Stat. 209. South-point of Kabaëna-island. 22 M. Coralsand. 1 Spec.

16. *Mitra (Nebularia) adusta* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 306.
RUMPH. Amb. Rariteitkamer, p. 97, N$^{0}$ XI bis.
KIENER. Coq. Viv. Vol. II, Mitra, p. 22, Pl. 6, fig. 15.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 40, Pl. 7, fig. 5.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 25.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 19, Pl. 2, fig. 16, 17.
TRYON. Man. of Conch. Vol. IV, p. 148, Pl. 43, fig. 269; Pl. 44, fig. 276.

Stat. 71. Pulu Barang, near Makassar. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 86. Dongala, Palos-bay, Celebes. Reef and 36 M. Fine, grey mud. 4 Spec.
Stat. 115. East side of Pajunga-island. Kwandang-bay. Reef. 2 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 7 Spec.
Stat. 174. Waru-bay, North coast of Ceram. Reef. 2 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.
Stat. 250. Kilsuin, West coast of Kur-island. Reef. 1 Spec.
Stat. 323. Sankapura-roads, Bawean-island. Reef. 1 Spec.

17. *Mitra (Nebularia) chrysostoma* Swainson.

SWAINSON. Proc. Zool. Soc. Lond. 1835, p. 194.
KIENER. Coq. Viv. Vol. II, Mitra, p. 24, Pl. 9, fig. 25 (*contracta*).
REEVE. Conch. Ic. Vol. II, Mitra, fig. 12.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 20, Pl. 8, fig. 95*, 96*.
TRYON. Man. of Conch. Vol. IV, p. 155, Pl. 46, fig. 330, 331.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

18. *Mitra (Nebularia) abbatis* Chemnitz.

CHEMNITZ. Conch. Cab. Ed. I, Vol. XI, p. 19, Pl. 177, fig. 1709, 1710.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Volutacea, p. 233, Pl. 27, fig. 4, 5.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 91.
SOWERBY. Thes. Conch. Vol. IV, Mitra, p. 17, Pl. 14, fig. 226.
TRYON. Man. of Conch. Vol. IV, p. 120, Pl. 35, fig. 53 (*contracta*).

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

19. *Mitra (Nebularia) pellis serpentis* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 172.
—— Conch. Ic. Vol. II, Mitra, fig. 66.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 22, Pl. 13, fig. 209.
TRYON. Man. of Conch. Vol. IV, p. 151, Pl. 44, fig. 300.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 279. Roma. Reef. 1 Spec.

The last named specimen is young and broken.

20. *Mitra (Scabricula) crenifera* Lamarck. Pl. XXIII, fig. 3.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 311.
KIENER. Coq. Viv. Vol. II, Mitra, p. 18, Pl. 4, fig. 11.

KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 126, Pl. 17*c*, fig. 10.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 38.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 8, Pl. 3, fig. 29, 30, 31.
TRYON. Man. of Conch. Vol. IV, p. 135, Pl. 39, fig. 152.

Stat. 240. Banda. 9—45 M. Black sand, coral. Lithothamnion. 4 Spec.

The median tooth (M.) of the radula has the base concave anteriorly, semicircular behind, with 2 long median cusps and 2 smaller ones on each side, all surpassing the base. The laterals (1) are rather broad, with four cusps on the proximal side, these cusps are also prominent. Number of rows about 60.

I have not quoted TRYON's figures 164 and 165, representing *M. pretiosa* Rve. and *Antoniae* H. Ads., which he considers, I think on insufficient grounds, as the young shell and a synonym.

21. *Mitra (Scabricula) sphaerulata* Martyn.

MARTYN. Univ. Conchol., I, fig. 21.
KIENER. Coq. Viv. Vol. II, Mitra, p. 14, Pl. 4, fig. 9 (*scabriuscula*).
KÜSTER. Martini-Chemn. Conch Cab. Ed. II, Vol. V, Volutacea, p. 41, Pl. 7, fig. 8; Pl. 9, fig. 1, 2.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 37.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 8, Pl. 3, fig. 38.
TRYON. Man. of Conch. Vol. IV, p. 135, Pl. 39, fig. 158.

Stat. 240. Banda. 9—45 M. Black sand, coral. Lithothamnion. 1 Spec.

22. *Mitra (Scabricula) gracilis* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 170.
—— Conch. Ic. Vol. II, Mitra, fig. 31.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 8, Pl. 12, fig. 187.
TRYON. Man. of Conch. Vol. IV, p. 136, Pl. 39, fig. 156.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.

The specimen is still young but in its sculpture is much more delicate than *M. granatina* Lam. and the colour-pattern agrees with REEVE's fig. (l. c.) I think it wil belong to his *gracilis*.

23. *Mitra (Scabricula) abyssicola* n. sp. Pl. XIX, fig. 1.

Stat. 159. 0° 59′.1 S., 129° 48′.8 E. Halmahera Sea. 411 M. Coralsand. 1 Spec.
Stat. 306. 8° 27′ S., 122° 54′.5 E. Flores Sea. 247 M. Sandy mud. 2 Spec.

Shell elongately fusiform, with the spire longer than dorsal view of last whorl. Nucleus consisting of 3 smooth whorls, subsequent whorls about 8, nearly straight or slightly convex, separated by a canaliculate suture. Colour yellow to yellowish-brown, with faint traces of brown streaks (not conspicuous in one specimen). Sculpture consisting of radiating ribs, crossed by stronger spirals, which render the shell granose by intercrossing each other, 6 spirals on penultimate whorl, the deep interstices have the appearance of being pitted; the whole shell is covered with fine growth-striae. Aperture narrow, elongate, peristome thin (probably not quite developed) crenulate, columellar margin with 3 oblique folds.

Alt. 28, lat. 8; apert. alt. 12, lat. $2^3/_4$ Mill.

The two specimens from Stat. 306 are small, young, the largest from Stat. 159 may be fullgrown, though the peristome is not yet developed. It is not without some hesitation, that I unite the specimens from the two localities to one species. Those from Stat. 306 have the whorls a little more convex, the sculpture is slightly coarser, one of the specimens is more distinctly streaked with brown. As these differences however are only gradual and even the two small specimens are not quite identical, I do not venture to describe more than one species. The species is allied to *M. loricata* Reeve, but very much narrower, that species has five columellar plaits, from *M. aegra* it differs in sculpture, that species not being granose.

24. *Mitra (Cancilla) interlirata* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 173.
—— Conch. Ic. Vol. II, Mitra, fig. 70.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 9, Pl. 19, fig. 369.
TRYON. Man. of Conch. Vol. IV, p. 140, Pl. 41, fig. 192 (*flammea* pars).

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 28 Spec.
Stat. 4. Djangkar (Java). 9 M. Coralsand. 2 Spec.
Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 1 Spec.
Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 116. Kwandang-bay-entrance. 72 M. Fine sand with mud. 2 Spec.
Stat. 142. Laiwui, coast of Obi Major. 23 M. Mud. 1 Spec.
Stat. 162. Between Loslos and Broken-island, West coast of Salawatti. 18 m. Coarse and fine sand with clay and shells. 1 Spec.
Stat. 213. Saleyer. Up to 36 M. Coralreefs, mud and mud with sand. 1 Spec.
Stat. 260. North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 311. Sapeh-bay, East coast of Sumbawa. Up to 36 M. Mud and sand. 1 Spec.
Stat. ? 2 Spec.

TRYON has united many species as belonging to *M. flammea*.

25. *Mitra (Cancilla) filaris* Linné.

LINNÉ. Mantissa, p. 548.
RUMPH. Amb. Rariteitkamer, p. 98, Pl. 29, fig. T.
KIENER. Coq. Viv. Vol. II, Mitra, p. 20, Pl. 5, fig. 12 (*filosa*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 47, Pl. 9, fig. 3, 4; Pl. 13, fig. 7, 8 (*filosa*).
REEVE. Conch. Ic. Vol. II, Mitra, fig. 81 (*filosa*).
SOWERBY. Thes. Conchyl. Vol. IV, p. 8, Pl. 7, fig. 82, 83 (*filosa*).
TRYON. Man. of Conch. Vol. IV, p. 138, Pl. 40, fig. 174, 175.

Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coralbottom. 1 Spec.
Stat. 153. 0° 3′.8 N., 130° 24′.3 E. Near Waigeu-island. 141 M. Fine and coarse sand with dead shells. 1 Spec.
Stat. 277. Kulewatti-bay, Dammer-island. 45 M. Sand. 2 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.

Most probably the specimens from Stat. 105 and 153 will not have lived at these great depths, in accordance therewith they are dead shells.

26. *Mitra (Cancilla) rufescens* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 137.
BOOG-WATSON. Challenger-Gastropoda, p. 249, Pl. 14, fig. 5.

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 4 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Sand with mud, coral. 2 Spec.
Stat. 104. Sulu-harbour, Sulu-island. 14 M. Sand. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 1 Spec.
Stat. 260. North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.

The specimens are young even very young. I compared them with a fine specimen from the Red Sea and found the sculpture identical. However, young shells if they are moreover bleached are very difficult to be identified with complete certainty in this group. SOWERBY has omitted this species. TRYON thinks it is identical with *M. annulata.*

27. *Mitra (Cancilla) carnicolor* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 181.
—— Conch. Ic. Vol. II, Mitra, fig. 164.
SOWERBY. Thes. Conchyl. Vol. IV, p. 9, Pl. 25, fig. 549.
TRYON. Man. of Conch. Vol. IV, p. 139, Pl. 40, fig. 185.

Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud sand with mud, coral. 1 Spec.
Stat. ? 1 Spec.

The specimens are young and partly bleached, the sculpture agrees with specimens from the Andamans. I have consulted Mr. MELVILL for these specimens, who writes: "Not quite typical, but am inclined to agree with your determination".

28. *Mitra (Cancilla) flammigera* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 182.
—— Conch. Ic. Vol. II, Mitra, fig. 173.
SOWERBY. Thes. Conchyl. Vol. IV, p. 9, Pl. 8, fig. 107, 108.
TRYON. Man. of Conch. Vol. IV, p. 140, Pl. 41, fig. 191 (*flammea*).

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 2 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 164. 1°42′.5 S., 130°47′.5 E. West New-Guinea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coralsand, mud. 4 Spec.

The specimen from Stat. 164 is a fine full-grown shell, the other ones are young and in that state come very near to *M. annulata* Reeve. As the disposition of the spiral lirae, better agrees with that of this full-grown specimen than with those of *M. annulata* from Zanzibar in my possession, I have referred them all to *M. flammigera.*

29. *Mitra (Cancilla) rufilirata* Adams & Reeve.

ADAMS & REEVE. Moll. Voy. Samarang, p. 26, Pl. 10, fig. 26.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 9, Pl. 25, fig. 572.
TRYON. Man. of Conch. Vol. IV, p. 140, Pl. 4, fig. 197.

Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 2 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.

Agreeing with specimens from the Andaman-isles.

30. *Mitra (Chrysame) rotundilirata* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 183.
—— Conch. Ic. Vol. II, Mitra, fig. 178.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 12, Pl. 15, fig. 263; Pl. 16, fig. 278.
TRYON. Man. of Conch. Vol. IV, p. 146, Pl. 42, fig. 246 (*tabanula* var.).

Stat. 47. Bay of Bima, near South Fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 9 Spec.

Some of the specimens are light banded and these resemble *M. Rüppellii* Reeve, but the interstices of the ridges are "crossed with raised striae", which is according to REEVE the chief distinctive character.

31. *Mitra (Chrysame) pediculus* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 341.
KIENER. Coq. Viv. Vol. II, Mitra, p. 55, Pl. 16, fig. 53.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 146, Pl. 17*c*, fig. 15, 16.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 264.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 15, Pl. 17, fig. 338.
TRYON. Man. of Conch. Vol. IV, p. 146, Pl. 42, fig. 244 (*tabanula* var.).

Stat. 125. Sawan, Siau-island. Reef. 1 Spec.
Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. Reef. 1 Spec.

32. *Mitra (Chrysame) cucumerina* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 332.
KIENER. Coq. Viv. Vol. II, Mitra, p. 62, Pl. 9, fig. 24.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 65, Pl. 12, fig. 10, 11.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 201.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 12, Pl. 16, fig. 275—277.
TRYON. Man. of Conch. Vol. IV, p. 143, Pl. 42, fig. 227, 228.

Stat. 115. East-side of Pajunga-island. Kwandang-bay. Reef. 2 Spec.
Stat. 125. Sawan, Siau-island. Reef. 1 Spec.
Stat. 250. Kur-island. Reef. 1 Spec.

The specimens are young and consequently the characters are scarcely sufficiently developed for certain identification.

33. *Mitra (Chrysame) turgida* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 52.
—— Conch. Ic. Vol. II, Mitra, fig. 273.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 12, Pl. 21, fig. 458.
TRYON. Man. of Conch. Vol. IV, p. 144, Pl. 42, fig. 234.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.

Though the specimen is still very small, I think it belongs to this species, as the sculpture perfectly agrees with that of specimens from Cebu. TRYON unites *M. indentata* with it.

34. *Mitra (Chrysame) coriacea* Reeve. Pl. XXIII, fig. 4.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 47.
—— Conch. Ic. Vol. II, Mitra, fig. 231.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 20, Pl. 25, fig. 564.
TRYON. Man. of Conch. Vol. IV, p. 149, Pl. 44, fig. 287 (*lugubris* juv.).

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 2 Spec.
Stat. 274. 5° 28'.2 S., 134° 53'.9 E. Aru-islands. 57 M. Sand and shells, stones. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 10 Spec.

The radula has the teeth in about 40 rows. The median tooth (M) has a lenticular base, with convex anterior and posterior margins, the latter being the most convex, it is 9-cuspidate, 3 central cusps being larger and on each side are 3 smaller ones of which the outer one is scarcely perceptible in some rows; the laterals (1) are broad, with a curved base and only 3 cusps near the proximal end, of which the distal one is by far the largest.

The specimens from Stat. 33 and 274 are rather small, but those from Stat. 313 are very fine and well-developed.

35. *Mitra (Chrysame) granata* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 52.
—— Conch. Ic. Vol. II, Mitra, fig. 271.

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The only specimen is still very young, consequently doubtful; I consulted Mr. MELVILL, who thinks it may be the young, undeveloped *granata*, so I have referred it to that species, though with doubt.

36. *Mitra (Chrysame) fraga* Quoy & Gaimard.

QUOY & GAIMARD. Voy. Astrolabe, Vol. II, p. 660, Pl. 43 bis, fig. 28, 29.
KIENER. Coq. Viv. Vol. II, Mitra, p. 63, Pl. 9, fig. 26.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 133, Pl. 17*d*, fig. 7, 8
REEVE. Conch. Ic. Vol. II, Mitra, fig. 186 (*peregra*).
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 13, Pl. 16, fig. 284.
TRYON. Man. of Conch. Vol. IV, p. 143, Pl. 42, fig. 229.

Stat. 149. West coast of Gebé-island. Reef. 1 Spec.

I owe the identification of this specimen to Mr. MELVILL, who says: "*fraga* Quoy = *peregra* Reeve. I think this is right, it is the granular form, most examples of this species are simply spirally sulcate".

37. *Mitra (Swainsonia) olivaeformis* Swainson.

SWAINSON. Zool. Illustr. Ser. II, Pl. 6, fig. 3.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 97, Pl. 27, fig. 9.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 212.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 4, Pl. 17, fig. 318.
TRYON. Man. of Conch. Vol. IV, p. 131, Pl. 38, fig. 131.

Stat. 66. Bank between islands of Bahuluwang and Tambolungan, South of Saleyer. 8—10 M. Dead coral, Halimeda, Lithothamnion. 1 Spec.

The description of KIENER (Coq. Viv. Vol. II, Mitra, p. 108) seems to belong to this species, but his figure (Pl. 32, fig. 107) does not agree with his words, nor with the specimen, so I have not quoted it.

## **Strigatella** Swainson.

1. *Strigatella acuminata* Swainson.

SWAINSON. Zool. Illustr. Ser. II, Pl. 128, fig. 3.
KIENER. Coq. Viv, Vol. II, Mitra, p. 51, Pl. 15, fig. 47 (*lutea*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 79, Pl. 14, fig. 16 (*lutea*).
REEVE. Conch. Ic. Vol. II, Mitra, fig. 158.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 18, Pl. 8, fig. 88*, 89*.
TRYON. Man. of Conch. Vol. IV, p. 153, Pl. 45, fig. 312.

Stat. 220. Pasir Pandjang, West coast of Binongka. Reef. 1 Spec.

2. *Strigatella samuelis* Dohrn?

DOHRN. Proc. Zool. Soc. Lond. 1860, p. 368.
—— Nov. Conch. p. 45, Pl. 15, fig. 1, 2.

Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coralbottom. 1 Spec.

The only specimen is very young and doubtful. Mr. MELVILL who compared it for me says it may belong to *M. astricta* Reeve, which is usually considered to be the same as *M. samuelis* Dohrn; the specimen is not sufficient to settle such questions, as however it resembles more the quoted figure of DOHRN than the figure of *M. astricta*, I have provisionally quoted it with DOHRN's name.

3. *Strigatella scutulata* Chemnitz.

CHEMNITZ. Conch. Cab. Ed. I, Vol. X, p. 168, Pl. 151, fig. 1428, 1429.
KIENER. Coq. Viv. Vol. II, Mitra, p. 64, Pl. 17, fig. 57.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 42, Pl. 8, fig. 1, 2.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 82.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 19, Pl. 21, fig. 430, 431.
TRYON. Man. of Conch. Vol. IV, p. 155, Pl. 46, fig. 232, 233.

Stat. 86. Dongala, Palos, Celebes. Reef. 1 Spec.

4. *Strigatella paupercula* Linné. Pl. XXIII, fig. 5.

LINNÉ. Syst. Nat. Ed. X, p. 731, N$^0$ 359.
KIENER. Coq. Viv. Vol. II, Mitra, p. 48, Pl. 15, fig. 48.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 71, Pl. 13, fig. 9 10; Pl. 26, fig. 9, 10.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 84.
SOWERBY. Thes. Conchyl. Vol. IV, p. 19, Pl. 21, fig. 428, 429.
TRYON. Man. of Conch. Vol. IV, p. 156, Pl. 46, fig. 340.

Stat. 34. Labuan Pandan, Lombok. 18 M. Coralreef. 1 Spec.
Stat. 37. Sailus ketjil, Paternoster-islands. Up to 27 M. Coral and coralsand. 2 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 51. Madura-bay. Reef. 2 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 86. Dongala, Palos-bay, Celebes. Reef. 1 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 4 Spec.
Stat. 240. Banda. Reef. 1 Spec.

The specimens vary in size and markings, that from Stat. 34 is less smooth than those from the other localities.

As far as I am aware the radula of *Strigatella* has not yet been described. It is tridentate and has 64 rows. The median tooth (M) has a broad base, slightly curved in front, strongly so behind, with 5 cusps, which are considerably longer than the base, three of them are long and a shorter one stands on each side; the laterals (1) are comblike; with 14 cusps, of which the 7 proximal ones are longer than the base, the 7 distal ones become gradually shorter. As will be seen by comparing the figures with those of TROSCHEL (Gebiss der Schnecken, Vol. II, Pl. 6), the differences with the radulae of typical *Mitrae* f. i. fig. 5 and 6 are not overwhelming and even less than between species still belonging to *Mitra* (cfr. *M. Mariae*).

5. *Strigatella zebra* (Lamarck?) Sowerby.

SOWERBY. Thes. Conchyl. Vol. IV, p. 19, Pl. 21, fig. 444, 445.

Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. Reef. 4 Spec.

The specimens perfectly agree with the quoted figures of SOWERBY's *M. zebra* Lam., but LAMARCK (An. s. vert. Vol. X, p. 332) enumerates *zebra* as a synonym of *M. paupercula* and most authors (REEVE, TRYON) do the same. HIDALGO however (Cat. Mol. Test. Filipinas, p. 67) quotes "*zebra* Lam. (SOWERBY, Mitra, fig. 444 and 445)"; as the specimens do not exactly agree with any other figured form, I have recorded them with SOWERBY's name, though I am not satisfied that the question is settled.

6. *Strigatella retusa* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 336.
KIENER. Coq. Viv. Vol. II, Mitra, p. 49, Pl. 15, fig. 49.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 86, Pl. 15, fig. 13, 14.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 199.

SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 19, Pl. 21, fig. 447, 448.
TRYON. Man. of Conch. Vol. IV, p. 156, Pl. 46, fig. 342, 343.

Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. Coral and coralsand. 1 Spec.
Stat. 296. Noimini-bay, South coast of Timor. Reef. 2 Spec.

7. *Strigatella litterata* Lamarck.

LAMARCK. Ann. s. vert. Ed. II, Vol. X, p. 339.
KIENER. Coq. Viv. Vol. II, Mitra, p. 50, Pl. 16, fig. 50.
KÜSTER. Martini-Chemn. Conch Cab. Ed. II, Vol. V, Volutacea, p. 84, Pl. 15, fig. 9.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 153.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 18, Pl. 21, fig. 436.
TRYON. Man. of Conch. Vol. IV, p. 155, Pl. 46, fig. 338, 339.

Stat. 125. Sawan, Siau-island. Reef. 1 Spec.
Stat. 213. South-island. Reef. 1 Spec.

The only adult specimen is rather small, dark and a little worn, however a few of the characteristic punctures are visible, that from Stat. 125 is very young and a little doubtful, but agrees with the upper whorls of dark specimens.

8. *Strigatella decurtata* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 180.
—— Conch. Ic. Vol. II, Mitra, fig. 154.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 18, Pl. 21, fig. 460.
TRYON. Man. of Conch. Vol. IV, p. 155, Pl. 46, fig. 335 (*scutulata*).

Stat. 129. Near Kawio- and Kamboling-islands, Karkaralong-group. 23—31 M. Sand. 1 Spec.
Stat. 279. Ruma-Kuda-bay, Roma-island. Reef. 1 Spec.

Though the only specimen from Stat. 279 is not quite adult and the peristome consequently not yet developed, it agrees in other respects very well with the quoted figures and with specimens from the Sangir- and Loochoo-islands in my collection. That from Stat. 129 is a broken shell, quite incrustated and contains a hermit-crab.

## Turricula Klein.

1. *Turricula vulpecula* Linné. Pl. XXIII, fig. 6.

LINNÉ. Syst. Nat. Ed. X, p. 732, N$^0$ 365.
RUMPH. Amb. Rariteitkamer, p. 98, Pl. 29, fig. R.
KIENER. Coq. Viv. Vol. II, Mitra, p. 76, Pl. 21, fig. 64.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 58, Pl. 10, fig. 12, 13; Pl. 11, fig. 1—3.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 55.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 30, Pl. 2, fig. 10—14.
TRYON. Man. of Conch. Vol. IV, p. 167, Pl. 49, fig. 410, 411, 413.

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The specimen belongs to the form with the ribs obtuse on shoulder.
I have drawn the teeth of the radula of a specimen received from Amboina, the median

tooth (M) has a curved base, resembling TROSCHEL's figure of the radula of *T. corrugata*, but a little straighter with 12 cusps, (in another specimen a very small secondary one) the laterals (1) are strongly curved.

2. *Turricula balteolata* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 171.
—— Conch. Ic. Vol. II, Mitra, fig. 54.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 29, Pl. 5, fig. 64.
TRYON. Man. of Conch. Vol. IV, p. 166, Pl. 49, fig. 405.

Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.

3. *Turricula lyrata* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 316.
KIENER. Coq. Viv. Vol. II, Mitra, p. 81, Pl. 23, fig. 71.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 46, Pl. 8, fig. 15, 16.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 46.
SOWERBY. Thes. Conchyl. Vol. IV, p. 29, Pl. 2, fig. 22, 23.
TRYON. Man. of Conch. Vol. IV, p. 166, Pl. 49, fig. 403.

Stat. 213. Saleyer. 9—34 M. Mud and mud with sand. 1 Spec.

4. *Turricula melongena* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 316.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 47.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 29, Pl. 2, fig. 18, 19.
TRYON. Man. of Conch. Vol. IV, p. 166, Pl. 49, fig. 401, 402, 407.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.

5. *Turricula minahassae* Schepman. Pl. XXII, fig. 7.

SCHEPMAN. Samml. des Geol. Reichs-Mus. in Leiden, Ser. I, Vol. VIII, 1907, p. 167, Pl. 10, fig. 6.

Stat. 261. Elat, West coast of Great Kei-island. 27 M. Mud. 1 Spec.

I cannot distinguish this specimen from the subfossil ones from Celebes, nor could I find in the monographs on the genus *Mitra*, a species with which I could unite it. The shell is white, with a rather broad orange-brown band below the suture, another at the periphery, only partly visible on the upper whorls and a third at the base, occupying also the canal, though less clearly. The spirals of the base and partly the ribs, especially their upper part, are more or less white.

6. *Turricula curvilirata* Sowerby.

SOWERBY. Thes. Conchyl. Vol. IV, p. 29, Pl. 9, fig. 128, 129.
TRYON. Man. of Conch. Vol. IV, p. 166, Pl. 49, fig. 404.

Stat. 71. Makassar and surroundings. 27—32 M. Mud, sand with mud, coral. 1 Spec.

This specimen agrees as much as can be desired with SOWERBY's figures, it is a trifle longer and more slender than his figure 129, with a peripheral band, as broad as in fig. 128, but darker, and a very narrow, fainter brown line a little more below. SOWERBY who thought it might be but a variety of *M. melongena*, did not know the habitat; TRYON who says it: "may be nevertheless only a variety" of *M. melongena* gives as locality "China?". MELVILL (Proc. Mal. Soc. Lond. Vol. III 1898, p. 40) records it from the Andaman-islands and adds: "Quite distinct from *M. melongena* Lam. It is a rare species".

7. *Turricula tayloriana* Sowerby.

SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 29, Pl. 9, fig. 125; Pl. 10, fig. 153.
TRYON. Man. of Conch. Vol. IV, p. 165, Pl. 48, fig. 388, 389 (*taeniata* var.).

Stat. 205. Lohio-bay, Buton-strait. 22 M. Sandy mud. 1 Spec.
Stat. ? 2 Spec.

The specimens are young, so I was unable to identify them, and owe the identification to Mr. MELVILL.

8. *Turricula costellaris* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 315.
KIENER. Coq. Viv. Vol. II, Mitra, p. 69, Pl. 19, fig. *b*.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 42, Pl. 8, fig. 3, 4.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 58.
SOWERBY. Thes. Conchyl. Vol. IV, p. 30, Pl. 2, fig. 24, 25.
TRYON. Man. of Conch. Vol. IV, p. 166, Pl. 49, fig. 408.

Stat. 231. Amboina. Reef. 1 Spec.

9. *Turricula plicaria* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 732, N$^0$ 366.
RUMPH. Amb. Rariteitkamer, p. 98, Pl. 29, fig. S.

Stat. ? 1 Spec.

As only one bleached shell (with dried Pagurus) of unknown locality has been obtained of this common and well-known species, I have judged it superfluous to quote the different monographs.

10. *Turricula (Callithaea) sanguisuga* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 732, N$^0$ 364.
RUMPH. Amb. Rariteitkamer, p. 98, Pl. 29, fig. V.
KIENER. Coq. Viv. Vol. II, Mitra, p. 79, Pl. 24, fig. 74 (*stigmataria*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 48, Pl. 9, fig. 5, 6; Pl. 10, fig. 4, 5 (*stigmataria*).
REEVE. Conch. Ic. Vol. II, Mitra, fig. 15. (*stigmataria*).

SOWERBY. Thes. Conch. Vol. IV, Mitra, p. 29, Pl. 4, fig. 48, 49 (*stigmataria*).
TRYON. Man. of Conch. Vol. IV, p. 165, Pl. 48, fig. 396, 397 (var. *stigmataria*).

Stat. 213. Saleyer. Reef. 1 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

None of the quoted monographers has taken notice of the observation of DESHAYES, that LAMARCK's *M. stigmataria* (An. s. vert. Ed. II, Vol. X, p. 320) is the true *Voluta sanguisuga* of LINNÉ, as may follow from the observation in LINNÉ's description: "Fasciae anfractuum e punctis sanguineis distantibus", though it is clear that one cannot apply this term on a species with the ribs uninterruptedly red. The *M. sanguisuga* of authors, probably is merely a variety, but not LINNÉ's type.

11. *Turricula (Costellaria) nodulifera* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 140.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 32, Pl. 24, fig. 530.
TRYON. Man. of Conch. Vol. IV, p. 130, Pl. 50, fig. 442.

Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.

12. *Turricula (Costellaria) interstriata* Sowerby, var.?

SOWERBY. Proc. Zool. Soc. Lond. 1870, p. 259.
—— Thes. Conchyl. Vol. IV, Mitra, p. 33, Pl. 19, fig. 392.
TRYON. Man. of Conch. Vol. IV, p. 172, Pl. 51, fig. 456.

Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

The specimen is not in very good condition, it agrees however very well with SOWERBY's figures, but is a little more slender.

13. *Turricula (Costellaria) Collinsoni* A. Adams, var.

A. ADAMS. Journ. Linn. Soc. VII, 1864, p. 200.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 35, Pl. 27, fig. 622.
TRYON. Man. of Conch. Vol. IV, p. 172, Pl. 51, fig. 458.

Stat. 4. Djangkar (Java) 9 M. Coarse sand. 4 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud. 3 Spec.
Stat. 142. Laiwui, coast of Obi Major. 23 M. Mud. 1 Spec.

The specimens agree moderately well with SOWERBY's fig. 622. I one the identification to Mr. E. A. SMITH.

14. *Turricula (Costellaria) cruentata* Chemnitz. Pl. XXIII, fig. 7.

CHEMNITZ. Conch. Cab. Vol. X, p. 171, Pl. 151, fig. 1438, 1439.
KIENER. Coq. Viv. Vol. II, Mitra, p. 85, Pl. 25, fig. 78 (*harpaeformis*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 44, Pl. 8, fig. 9, 10.

REEVE. Conch. Ic. Vol. II, Mitra, fig. 126.
SOWERBY. Thes. Conchyl. Vol. IV, p. 33, Pl. 10, fig. 138, 144.
TRYON. Man. of Conch. Vol. IV, p. 173, Pl. 51, fig. 462, 464.

Stat. 213. Saleyer. Reef. 7 Spec.

The specimen belongs to the form with rounded shoulder.

The radula has the teeth in more than 50 rows; the median tooth (M) is elegantly curved, with 18 to 20 rather long cusps, becoming smaller towards the sides. The laterals (1) are long, nearly reaching each other towards the centre of radula in their natural position; they have the common hooked shape.

15. *Turricula (Costellaria) exarata* A. Adams var.?

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 133.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 34, Pl. 26, fig. 602.
TRYON. Man. of Conch. Vol. IV, p. 173, Pl. 51, fig. 465 (*cruentata* pars).

Stat. 231. Amboina. Reef. 1 Spec.

The only specimen which is not quite developed, has but one narrow white line though ADAMS describes two of them. The whorls are less angular than on the quoted figure of SOWERBY, which is also one-banded and in that of TRYON, which is a rude copy of SOWERBY's figure. Mr. E. A. SMITH compared the specimen with the type.

16. *Turricula (Costellaria) semisculpta* Adams and Reeve.

ADAMS and REEVE. Voy. Samarang, p. 27, Pl. 10, fig. 28.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 34, Pl. 11, fig. 159.
TRYON. Man. of Conch. Vol. IV, p. 174, Pl. 51, fig. 474.

Stat. 58. Seba, Savu. Up to 27 M. Sand. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand and coral. 2 Spec.

If wet, the specimens are elegantly lined with fine, brown lines, if dry these are much less apparent, but otherwise I can detect no differences of any importance with the figures.

17. *Turricula (Costellaria) funerea* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 176.
—— Conch. Ic. Vol. II, Mitra, fig. 108.
SOWERBY. Thes. Conchyl. Vol. IV, p. 31, Pl. 9, fig. 114.
TRYON. Man. of Conch. Vol. IV, p. 126.

Stat. 174. Waru-bay, North coast of Ceram. Reef. 1 Spec.

TRYON has located this species in the genus *Mitra*, but though I am not quite certain that I can detect traces of internal lirae, the shape of the aperture and the columellar plaits agree with those of *Turricula*.

18. *Turricula (Costellaria) spicata* Reeve. Pl. XXIII, fig. 8.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 55.
—— Conch. Ic. Vol. II, Mitra, fig. 291.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 36, Pl. 12, fig. 190; Pl. 19, fig. 383.
TRYON. Man. of Conch. Vol. IV, p. 175, Pl. 52, fig. 487 (*fusiformis*).

Stat. 240. Banda. 9—45 M. Black sand, coral. 4 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The small radula has a little more than 40 rows of teeth, of which the median ones (M) have a strongly curved base with 8 long cusps, which are nearly equal in length, safe that one of them is slightly abnormal in many rows, the laterals (1) are hooked and rather long, reaching each other in the median line, if the radula is not quite expanded.

Varying in the development of the second row of white nodules on last whorl, which is quite wanting or scarcely visible or conspicuous in the Siboga-specimens. REEVE mentions it in his text, but in his figure I cannot trace it.

19. *Turricula (Costellaria) angulosa* Küster.

KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 65, Pl. 12, fig. 8, 9.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 223.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 32, Pl, 24, fig. 531, 534, 535.
TRYON. Man. of Conch. Vol. IV, p. 169, Pl. 50, fig. 431, 432.

Stat. 240. Banda. 9—45 M. Black sand, coral. 2 Spec.

According to the 2 specimens, the species seems to vary considerably in the development of the nodules, which in the largest one are only conspicuous on the last whorl whilst the 8 or 9 upper ones are rounded, whereas in the smaller young one scarcely 4 of them are not nodulous.

20. *Turricula (Costellaria) mucronata* Swainson.

SWAINSON. Proc. Zool. Soc. Lond. 1835, p, 195.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 125, fig. 132 (*fusiformis* non Kien.).
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 36, Pl. 19, fig. 377—380.
TRYON. Man. of Conch. Vol. IV, p. 174, Pl. 51, fig. 475—478.

Stat. 240. Banda. 9—45 M. Black sand, coral. 2 Spec.

I think TRYON is right in uniting *M. fusiformis* Rve. non KIENER to this species. The Siboga-specimens agree with that figure and with specimens from the Andaman-isles.

21. *Turricula (Costellaria) nodilirata.* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 136.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 26, Pl. 19, fig. 385.
TRYON. Man. of Conch. Vol. IV, p. 174, Pl. 52, fig. 480 (*mucronata* pars).

Stat. 37. Sailus ketjil, Paternoster-islands. Up to 27 M. Coral and coralsand. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

The specimen from Stat. 37 is very young, but perfectly agrees with the upper whorls of the other one.

22. *Turricula (Costellaria) purpurata* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 53.
—— Conch. Ic. Vol. II, Mitra, fig. 275.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 26, Pl. 23, fig. 507.
TRYON. Man. of Conch. Vol. IV, p. 135, Pl. 52, fig. 490.

Stat. 301. Pepela-bay, East coast of Rotti-island. 22 M. Mud, coral and Lithothamnion. 1 Spec.
Stat. 322. Tandjong Lajar, South coast of Bawean-island. 32 M. Coral. 1 Spec.

23. *Turricula (Costellaria) malcolmensis* Melvill.

MELVILL. Proc. Zool. Soc. Lond. 1901, p. 421, Pl. 23, fig. 18.

Stat. 47. Bay of Bima, 55 M. Mud with patches of fine coralsand. 9 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse grey sand with shells and stones. 18 Spec.
Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand very fine. 22 Spec.
Stat. 116. East-side of Pajunga-island, Kwandang-bay. Reef. 4 Spec.
Stat. 206. Buton-strait. 51 M. Fine green mud. 4 Spec.
Stat. 271. 5°46'.7 S., 134°0' E. 1788 M. Bluish green mud. 1 Spec.
Stat. 285. South coast of Timor. 34 M. 9 Spec.

The specimen from Stat. 271 is a dead, bleached shell, of uncertain determination, if it is really the species under consideration, it probably will not have lived at so great a depth.

24. *Turricula (Costellaria) daedala* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 54.
—— Conch. Ic. Vol. II, Mitra, fig. 281.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 34, Pl. 26, fig. 601.
TRYON. Man. of Conch. Vol. IV, p. 175, Pl. 52, fig. 491 (*purpurata* pars).

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 3 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 2 Spec.
Stat. 116. East side of Pajunga-island, Kwandang-bay. Reef. 1 Spec.
Stat. 285. South coast of Timor. 34 M. 6 Spec.

The specimens are not in good condition. I owe the identification to Mr. MELVILL, though not without doubt.

25. *Turricula (Costellaria) scitula* A. Adams. Pl. XXII, fig. 8.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 138.
SOWERBY. Thes. Conch. Vol. IV, Mitra, p. 35, Pl. 20, fig. 418.
TRYON. Man. of Conch. Vol. IV, p. 176, Pl. 52, fig. 499.

Stat. 37. Sailus ketjil, Paternoster-islands. Up to 27 M. Coral and coralsand. 3 Spec.
Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 2 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 260. Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.

Mr. E. A SMITH writes about the specimen from Stat. 240: "Exactly like the type. SOWERBY's figure in Thesaurus is awful!". As TRYON's figure is merely a rude copy, I have given a new figure.

The specimens from Stat. 204 and 260 are dead, bleached shells, those from Stat. 37 have the brown spots rather obsolete, they are more convex and the ribs are more crowded.

26. *Turricula (Costellaria) amanda* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 59.
—— Conch. Ic. Vol. II, Mitra, fig. 318.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 33, Pl. 26, fig. 592.
TRYON. Man. of Conch. Vol. IV, p. 176, Pl. 52, fig. 508.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 2 Spec.
Stat. 4. Djangkar (Java). 9 M. Coarse sand. 9 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 10 Spec.
Stat. 142. Laiwui, coast of Obi Major. 23 M. Mud. 11 Spec.
Stat. 153. 0° 3′.8 N., 130° 24′.3 E. Near Waigeu-island. 141 M. Fine and coarse sand with dead shells. 1 Spec.
Stat. 162. Between Loslos and Broken-islands, West coast of Salawatti. 18 M. Coarse and fine sand with clay and shells. 1 Spec.
Stat. 205. Lohio-bay, Buton-strait. 22 M. Sandy mud. 7 Spec.
Stat. 260. Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 3 Spec.
Stat. 294. 10° 12′.2 S., 124° 27′.3 E. Timor Sea. 73 M. Soft mud with very fine sand. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.
Stat. ? 1 Spec.

In all the specimens I inspected I find, that the internal lirae of the aperture have the appearance of rows of oblong pearls.

27. *Turricula (Costellaria) sculptilis* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 55.
—— Conch. Ic. Vol. II, Mitra, fig. 290.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 34, Pl. 26, fig. 596.
TRYON. Man. of Conch. Vol. IV, p. 175, Pl. 52, fig. 494 (*coelata* pars).

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.

28. *Turricula (Costellaria) tenuilirata* Sowerby.

SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 31, Pl. 20, fig. 407.
TRYON. Man. of Conch. Vol. IV, p. 178, Pl. 53, fig. 523 (*crebrilirata* pars).

Stat. 296. Noimini-bay, South coast of Timor. 8—36 M. Sandy mud. 1 Spec.

Very near to *T. crebrilirata* Rve., but the only specimen differs too much to follow TRYON's view.

29. *Turricula (Costellaria) radix* Sowerby.

SOWERBY. Thes. Conchyl. Vol. IV Mitra, p. 36, Pl. 25, fig. 552.
TRYON. Man. of Conch. Vol. IV, p. 180, Pl. 53, fig. 537.

Stat. 123. North-bay, Biaru-island. 36—27 M. Stone and Lithothamnion-bottom. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.

30. *Turricula (Costellaria) obeliscus* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 175.
—— Conch. Ic. Vol. II, Mitra, fig. 107.
SOWEBY. Thes. Conchyl. Vol. IV, p. 36, Pl. 9, fig. 126, 127.
TRYON. Man. of Conch. Vol. IV, p. 179, Pl. 53, fig. 535.

Stat. 33. Bay of Pidjot, Lombok. 18 M. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 2 Spec.
Stat. 162. Between Loslos and Broken-islands, West coast of Salawatti. 18 M. Coarse and fine sand with clay and shells. 3 Spec.
Stat. 164. 1°42′.5 S., 130°47′.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 6 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.
Stat. ? 1 Spec.

Some of the specimens are rather too young for quite safe identification.

31. *Turricula (Costellaria) mutabilis* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 47.
—— Conch. Ic. Vol. II, Mitra, fig. 235.
SOWERBY. Thes. Conchyl. Vol. IV, p. 32, Pl. 24, fig. 543, 544.
TRYON. Man. of Conch. Vol. IV, p. 181, Pl. 54, fig. 551 (*cadaverosa* pars).

Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.

The specimen agrees with REEVE's fig. 235*a* and its copies; its length is 17 Mill.

32. *Turricula (Costellaria) rustica* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 60.
—— Conch. Ic. Vol. II, Mitra, fig. 329.
TRYON. Man. of Conch. Vol. IV, p. 176, Pl. 52, fig. 501.

Stat. 240. Banda. 9—45 M. Black sand, coral and Lithothamnion. 1 Spec.

Perfectly agreeing with the dorsal view and description of REEVE, besides the punctures between the lirae, I see very fine growth-striae; the interior of aperture and the columellar plaits are stained with violet. The quoted authors did not know the habitat.

33. *Turricula (Costellaria) exasperata* Chemnitz.

CHEMNITZ. Conch. Cab. Ed. I, Vol. X, p. 172, Pl. 151, fig. 1440, 1441.
KIENER. Coq. Viv. Vol. II, Mitra, p. 90, Pl. 25, fig. 77 (*torulosa*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 45, Pl. 8, fig. 13, 14.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 162.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 28, Pl. 20, fig. 419, 424, 425.
TRYON. Man. of Conch. Vol. IV, p. 180, Pl. 53, fig. 541—44.

Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 2 Spec.

The specimens are rather slender and so remember in shape var. *arenosa* but the ribs are typical.

var. *arenosa* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 338.
KIENER. Coq. Viv. Vol. II, Mitra, p. 91, Pl. 25, fig. 80 (*torulosa* var.).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 85, Pl. 15, fig. 12 (*torulosa* var.).
REEVE. Conch. Ic. Vol. II, Mitra, fig. 161.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 28, Pl. 20, fig. 423, 426.
TRYON. Man. of Conch. Vol. IV, p. 180, Pl. 54, fig. 545, 546 (*exasperata* pars).

Stat. 125. Sawan, Siau-island. 27 M. Stone and some Lithothamnion. 1 Spec.

34. *Turricula (Costellaria) pacifica* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 52.
—— Conch. Ic. Vol. II, Mitra, fig. 272.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 27, Pl. 19, fig. 388; Pl. 27, fig. 630.
TRYON. Man. of Conch. Vol. IV, p. 181, Pl. 54, fig. 550 (*cadaverosa* pars).

Stat. 78. Lumu-Lumu-shoal, Borneo-bank. 34 M. Coral and coralsand. 1 Spec.

35. *Turricula (Costellaria) dichroa* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 141 (*dichroma*).
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 23, Pl. 22, fig. 463.
TRYON. Man. of Conch. Vol. IV, p. 185, Pl. 55, fig. 590.

Stat. 86. Dongala, Palos-bay, Celebes. Reef. 1 Spec.
Stat. 125. Sawan, Siau-island. 27 M. Stone and some Lithothamnion. 1 Spec.

36. *Turricula (Pusia) multicostata.* Swainson.

SWAINSON. Proc. Zool. Soc. Lond. 1835, p. 195.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 322.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.

The specimen is still rather small and doubtful.

37. *Turricula (Pusia) aureolata* Reeve.

REEVE. Conch. Ic. Vol. II, Mitra, fig. 210.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 27, Pl. 23, fig. 497.
TRYON. Man. of Conch. Vol. IV, p. 188, Pl. 55, fig. 600, 601.

Stat. 240. Banda. 9—45 M. Black sand, coral. Lithothamnion. 1 Spec.

The specimen is also young. It may be that SOWERBY and TRYON are right in uniting some of REEVE's species, but with such doubtful specimens, it seems not safe to make conclusions, so I have left them separated.

38. *Turricula (Pusia) venustula* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 186.
—— Conch. Ic. Vol. II, Mitra, fig. 204.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 27, Pl. 23, fig. 500 (*aureolata* pars).
TRYON. Man. of Conch. Vol. IV, p. 188, Pl. 55, fig. 604 (*aureolata* var).

Stat. 282. Between Nusa Besi and N.E.-point of Timor. 27—54 M. Sand, coral and Lithothamnion. 1 Spec.

Same observation as for preceding species.

39. *Turricula (Pusia) semicostata* Anton.

ANTON. Verzeichn. p. 68.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 80, Pl. 14, fig. 20, 21.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 308.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 25, Pl. 22, fig. 492.
TRYON. Man. of Conch. Vol. IV, p. 195.

Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.

The specimen is small but well characterized by the white blotches.

40. *Turricula (Ziervogelia) Woldemari* Kiener.

KIENER. Coq. Viv. Vol. II, Mitra, p. 52, Pl. 17, fig. 55.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 123, Pl. 17*c*, fig. 6.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 139.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 206, Pl. 17, fig. 232 (*Waldemarii*).
TRYON. Man. of Conch. Vol. IV, p. 157, Pl. 46, fig. 349 (*Ziervogeliana* var.).

Stat. 127. Taruna-bay, Great Sangir-island. Reef. 1 Spec.

A very young specimen, which by its slender shape must belong to this species.

## **Cylindra** Schumacher.

1. *Cylindra dactylus* Linné.

LINNÉ. Syst. Nat. Ed. XII, p. 1188.
KIENER. Coq. Viv. Vol. II, Mitra, p. 102, Pl. 31, fig. 103.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Volutacea, p. 94, Pl. 16, fig. 7, 8.
REEVE. Conch. Ic. Vol. II, Mitra, fig. 88.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 15, Pl. 18, fig. 346.
TRYON. Man. of Conch. Vol. IV, p. 197, Pl. 57, fig. 658.

Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 231. Amboina. Reef. 1 Spec.

According to TROSCHEL, (Gebiss der Schnecken, II, p. 58) this genus should belong to the *Marginellidae*, as the radula has but one row of teeth, as however this tooth has sufficient resemblance with the median tooth of *Turricula* and FISCHER in his Manuel de Conchyliologie p. 614, states that the soft parts agree with those of *Mitra*, I have left it in the family *Mitridae*.

### **Imbricaria** Schumacher.

1. *Imbricaria conus* Chemnitz.

CHEMNITZ. Conch. Cab. Ed. I, Vol. X, p. 163, Pl. 150, fig. 1415, 1416.
KIENER. Coq. Viv. Vol. II, Mitra, p. 109, Pl. 34, fig. 111 (*conulus*).
KÜSTER. Martini-Chemn. Conch Cab. Ed. II, Vol. V, Volutacea, p. 98, Pl. 16, fig. 13, 14 (*conulus*).
REEVE. Conch. Ic. Vol. II, Mitra, fig. 83.
SOWERBY. Thes. Conchyl. Vol. IV, Mitra, p. 15, Pl. 18, fig. 361.
TRYON. Man. of Conch. Vol. IV, p. 199, Pl. 58, fig. 672 (*conulus*).

Stat. 86. Dongala, Palos-bay, Celebes. 36 M. Fine grey mud. 1 Spec.

Though I am not convinced that this species is well-located in the family of the *Mitridae* as its radula is *Turbinella*-like and this character seems to be of more importance than the wanting of an operculum, I have followed FISCHER in his "Manuel", the only specimen being an empty shell and consequently not fit for the observation of other structural characters of the soft parts.

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## Fam. FASCIOLARIDAE.

### **Fusus** Lamarck.

1. *Fusus colus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 753, N$^0$ 480.
RUMPH. Amb. Rariteitkamer, p. 96, Pl. 29, fig. F.
KIENER. Coq. Viv. Vol. IV, Fusus, p. 5, Pl. 4, fig. 1.
REEVE. Conch. Ic. Vol. IV, Fusus, fig. 11.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Fusus, p. 146, Pl. 30, fig. 3; Pl. 47, fig. 1.
SOWERBY. Thes. Conchyl. Vol. IV, Fusus, p. 72, Pl. 3, fig. 15.
TRYON. Man. of Conch. Vol. III, p. 52, Pl. 32, fig. 89—92.

Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 1 Spec.
Stat. 240. Banda. Reef and 9—45 M. Black sand, coral. 4 Spec.

The reef-specimens from Banda are large, one of them has the tubercles less developed on last whorl, but is typical in other respects, without a tendency to form a passage to *F. longicauda* Bory. That from Stat. 64 has a somewhat peculiar appearance, the tubercles being larger and less compressed than usual, with only small brown blotches between them, but the general shape, the upper whorls, small aperture and long slender canal are typical.

2. *Fusus forceps* Perry.

PERRY. Conchology, Pl. 2, fig. 4.
KIENER. Coq. Viv. Vol. IV, Fusus, p. 6, Pl. 5, fig. 1 (*turricula*).
REEVE. Conch. Ic. Vol. IV, Fusus, fig. 23 (*turricula*).
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Fusus, p. 163, Pl. 51, fig. 2.
SOWERBY. Thes. Conchyl. Vol. IV, Fusus, p. 73, Pl. 4, fig. 24 (*turricula*).
TRYON. Man. of Conch. Vol. III, p. 62, Pl. 38, fig. 154 (*turricula*).

Stat. 306. 8° 27′ S., 122° 54′.5 E. Flores Sea. 247 M. Sandy mud. 1 Spec.

The only specimen is a dead though rather fresh shell. I think it will scarcely have lived at the recorded considerable depth.

3. *Fusus toreuma* Martyn var.?

KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Fusus, p. 185, Pl. 59, fig. 1.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 2 Spec.

The shells are unfortunately very young and consequently the identification in a genus where the upper whorls are often very similar, is far from satisfactory; however they agree with the upper whorls of a specimen in my collection, corresponding to the description and figure of KOBELT (l. c.). I could not compare a more typical specimen.

4. *Fusus rufinodis* v. Martens.

v. MARTENS. Sitzungsber. der Gesellsch. naturf. Freunde Berlin. 1901, p. 22.
—— Die beschalten Gastrop. d. deutsch. Tiefsee-Exp. 1898—1899, p. 103, Pl. 2, fig. 10.

Stat. 251. 5° 28′.4 S., 132° 9′.2 E. Arafura Sea. 204 M. Hard coralsand. 1 Spec.

Though the only specimen is not quite identical with a typical specimen I received for comparison, by the kindness of Prof. J. THIELE, from the Berlin Museum, the differences are only gradual, and in some parts the resemblance is so great, especially the ventral side is very similar, that I don't venture to describe a new species and will only point out the differences. The Siboga-specimen is larger, having a total length of 58 mill. instead of 47, it is a dead shell and the five rufous lirae, that adorn the fresh specimen are wanting, however by transmitted light I see traces of them, the concentric ribs, which are conspicuous in the type, are only present in the upper whorls of the specimen under consideration, and are very faint on its last whorl, on the contrary the finer sculpture of intermediate spiral- and growth-striae is more conspicuous in the Siboga-specimen, and has a nearly cancellated appearance; an apparently more important difference may be, that the canal is nearly straight and that the shell is slightly more ventricose, but this may depend on age or sex; in the dorsal view on the quoted plate, the canal is also nearly straight, more so than in the specimen from Sumatra; lastly the aperture has the same grooves, but in the type I see between each two grooves a few lirae, which are much less conspicuous in the Siboga-specimen, however they are present though only as traces; as however the peristome is thicker, I can lay no stress on this difference and think after all, the two specimen must belong to one and the same species.

5. *Fusus Thielei* n. sp. Pl. XIX, fig. 2; Pl. XXIII, fig. 9.

Stat. 300. 10° 48′.6 S., 123° 23′.1 E. Timor Sea. 918 M. Fine grey mud. 1 Spec.

Shell fusiform, with conical spire and strongly curved canal. Whorls 8 or 9, the smooth nucleus being incomplete, convex, with a sharply impressed suture. Sculpture consisting of rounded concentric ribs, 14 in number on penultimate whorl, much fainter on last whorl, where

they are however still visible below the suture, but disappear at the periphery or a little below it; these ribs are crossed by much less conspicuous spiral lirae, of which 3 on each whorl are more prominent, with numerous unequal, fainter and intermediate spiral striae, which cross the growth-striae and give under the lens a cancellated appearance to the whole shell. Aperture oval, nearly rounded above, with a very obtuse angle; columellar side with a porcellaneous layer of enamel, which is rather thick, but quite appressed on the body-whorl; at its upper part I see a faint rib, too faint to make the upper angle channelled; basal canal rather wide, curved first to the left, then to the right; peristome simple, with very faint crenulations, corresponding to the external spirals, smooth within. The whole shell is of a dull white colour externally, the aperture is porcellaneous.

Operculum typical, rather dark corneous, with basal nucleus.

Alt. 44, lat. 17; apert. alt. (with canal) 23, lat. $7^1/_2$ Mill.

The radula has a median tooth (M) with 3 short cusps at a squarely oval base, the laterals (1) have a broad base, strongly curved up at the distal extremity, with normally 6 cusps, of which the proximal one is very small, the other ones are subequal; I see however in many rows, small intermediate cusps, which however seem to be abnormal, as is shown by the figure of two opposite laterals of the same row, the left figure having 2 small intermediate cusps.

This species has a superficial resemblance with the preceding one, but is quite different by its particulars of sculpture, the spirals not being compressed as in that species, the ribs are more numerous, the canal is much shorter and much more curved, the aperture is smooth, the shell, though fresh, is quite white etc.; the median tooth of the radula is also different, more so than the laterals. I have named it after Prof. THIELE in acknowledgement of his assistance in procuring materials for comparison.

6. *Fusus brevicaudatus* n. sp. Pl. XIX, fig. 3.

Stat. 45. 7° 24′ S., 118° 15′.2 E. Flores Sea. 794 M. Fine grey mud. 2 Spec.

Shell fusiform, with long, conical spire and short, curved canal. Apex eroded, whorls about 8, convex, with strongly impressed suture. Sculpture consisting of rounded, concentric ribs with rather narrow interstices, the ribs elegantly curved, especially below the sutures, 14 in number on penultimate whorl, not surpassing the periphery of last whorl; they are crossed by rather broad, flat, spiral ribs on the upper whorls, which are unequal in breadth and become very faint on last whorl, where at least above the periphery, the shell has more the appearance to be superficially grooved; below the periphery the shell is stronger grooved and has about 14 flat lirae, alternating with about as broad grooves; the finer sculpture consists of crowded growth-striae; the whole surface seems to be dull white, but is covered by a thin, smooth, yellowish epidermis, with exception of the lower half of last whorl and canal. Aperture oblong-ovate, conspicuously angular above, ending below in a short canal, curved to the left and slightly upturned. Interior of aperture smooth.

Alt. 35, lat. 12; apert. alt. with canal 16, lat. 6 Mill.

Alt. 39, lat. $14^1/_2$; apert. alt. with canal 19, lat. 7 Mill.

This species has the same character as the two preceding ones, but is quite different in sculpture and by its much shorter canal; though I could not examine the radula, both specimens being empty, they agree sufficiently with the other shorter-tailed species, to ascribe them to the genus *Fusus*; the description has been made after the smallest specimen, which was in the best condition, but besides small differences in the development of the spiral lirae, they seem to agree in every particular.

7. *Fusus chrysodomoides* n. sp. Pl. XIX, fig. 4; Pl. XXIII, fig. 10.

Stat. 139. 0° 11′ S., 127° 25′ E. Molucca-Passage. 397 M. Mud, stones and coral. 1 Spec.
Stat. 262. 5° 53′.8 S., 132° 48′.8 E. Near Kei-islands. 560 M. Solid bluish grey mud, upper layer more liquid and brown mud. 1 Spec.

Shell fusiform, with rather long, conical spire and rather long curved canal. Apex eroded, remaining whorls 9, slightly excavated below the suture, convex at the periphery, suture conspicuous but not deep. Upper whorls with a few broad concentric ribs, disappearing on the 5th whorl. Spiral sculpture consisting of numerous lirae, which are subequal on the upper excavated part of each whorl, and lower on alternating with stronger ones, so that between each 2 stronger lirae, runs a smaller one, in many cases with a very fine one, on one or on both sides; the lower part of last whorl, has nearly regularly 3 thinner lirae between 2 stronger ones; this spiral sculpture is crossed by stronger and finer concentric striae, producing a granular appearance of the whole surface, also on the backside of canal, which is curved first to the left, then to the right side. Aperture oval, sharply angular above, the last whorl being appressed to the penultimate one; canal rather broad, peristome inconspicuously crenulate; interior of aperture smooth. Colour dirty white, shell covered in part by a brown epidermis; interior of aperture porcellaneous white. Operculum typical.

Alt. 69, lat. 25; apert. alt. with canal 38, lat. 12 Mill.

Alt. 71, lat. 25; apert. alt. with canal 38, lat. 11 Mill.

The radula has a median tooth (M) with a tricuspid base, the median cusp being the longest, the base is as usual broader behind, the anterior margin is notched; the laterals (1) are broad, strongly curved, with 9 denticles, of which 8 are subequal in length, the most proximal one is much shorter, moreover I see in many teeth an intermediate cusp; the distal margin is angular below, but I think this angle should not be considered as a cusp.

This species is nearly allied to *F. subangulatus* v. Martens (Die beschalten Gastrop. der deutschen Tiefsee-Exp. 1898—1899, p. 102, Pl. 2, fig. 11) and I have repeatedly compared the Siboga specimens with a type, received for comparison from the Berlin-Museum, as many of the differences seem to be only gradual. The new species is not angular, the concentric ribs occupy only the uppermost whorls, the aperture is broader, the canal much more curved. The character which induced me to describe the species as new, is however the different sculpture, which practically consists of alternately stronger and finer lirae, in *F. subangulatus* the sculpture is more diversified, as between 2 stronger lirae, I see 6 and even 8 thinner ones, while there are by close examination only 3 intermediate ones in the new species; the spiral sculpture is consequently much more regular and less coarse; in the new species the lirae are

decidedly granular, which is only the case in the upper whorls of *subangulatus*, the lirae of the lower whorls being only slightly crenulate. After all it may be possible, that if more specimens of other localities are known, my species will prove to have only varietal rank.

8. *Fusus (Afer) Blosvillei* Deshayes.

DESHAYES. Enc. Meth. Vers. Vol. II, p. 155.
REEVE. Conch. Ic. Vol. IV, Fusus, fig. 25.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Fusus, p. 211, Pl. 66, fig. 3.
SOWERBY. Thes. Conchyl. Vol. IV, Fusus, p. 78, Pl. 8, fig. 79.
TRYON. Man. of Conch. Vol. III, p. 69, Pl. 40, fig. 179.

Stat. 79[b]. Pulu Kabala-dua, Borneo-bank. 22 M. Coralsand. 1 Spec.

The only specimen is not quite developed, in shape it agrees by its shorter canal, with REEVE's *F. heptagonalis* (l. c. fig. 26) which has been considered to be a variety of *Blosvillei*, but in colour and number of ribs it is typical. It agrees also very well with KOBELT's quoted figure, the peristome is thin and without the bright orange margin figured by REEVE, SOWERBY and TRYON.

## Fasciolaria Lamarck.

1. *Fasciolaria trapezium* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 755, N⁰ 493.
RUMPH. Amb. Rariteitkamer, p. 95, Pl. 29, fig. E; Pl. 49, fig. K.
KIENER. Coq. Viv. Vol. V, Fasciolaria, p. 8, Pl. 6.
REEVE. Conch. Ic. Vol. IV, Fasciolaria, fig. 15.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Fasciolaria, p. 131, Pl. 10 fig. 1, 2.
TRYON. Man. of Conch. Vol. III, p. 77, Pl. 61, fig. 26.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 3 Spec.

2. *Fasciolaria filamentosa* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 434.
KIENER. Coq. Viv. Vol. V, Fasciolaria, p. 11, Pl. 8, fig. 1.
REEVE. Conch. Ic. Vol. IV, Fasciolaria, fig. 4.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Fasciolaria, p. 136, Pl. 24, fig. 1.
TRYON. Man. of Conch. Vol. III, p. 75, Pl. 59, fig. 8—10.

Stat. 58. Seba, Savu. Up to 27 M. Sand. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 3 Spec.
Stat. 250. Kur-island. Reef. 1 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. Reef. 3 Spec.

The specimens are typical, with tubercled shoulder.

## Latirus Montfort.

1. *Latirus craticulatus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 755, N⁰ 495.
KIENER. Coq. Viv. Vol. V, Turbinella, p. 31, Pl. 19, fig. 2.

REEVE. Conch. Ic. Vol. IV, Turbinella, fig. 7.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 21, 118, Pl. 6, fig. 8; Pl. 31, fig. 6, 7.
TRYON. Man. of Conch. Vol. III, p. 93, Pl. 69, fig. 159.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

2. *Latirus turritus* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3456.
KIENER. Coq. Viv, Vol. V, Turbinella, p. 32, Pl. 18, fig. 2 (*lineata*).
REEVE. Conch. Ic. Vol. IV, Turbinella, fig. 57.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 19, Pl. 6, fig. 4, 5.
TRYON. Man. of Conch. Vol. III, p. 93, Pl. 69, fig. 160, 161.

Stat. 58. Seba, Savu. Up to 27 M. Sand. 1 Spec.

3. *Latirus Melvilli* n. sp. Pl. XXII, fig. 9.

Stat. 91. Muaras reef, inner side, East coast of Borneo. Up to 54 M. Hard coral sand. 1 Spec.
Stat. 213. South-island near Saleyer. Reef. 2 Spec.

Shell ovately-fusiform, spire rather long, conical, with convex sides and short slightly recurved canal. Whorls 7 to 8, upper ones rather convex, last one contracted below the suture, which is distinct and irregularly squamate. Sculpture consisting of broad, rounded, concentric ribs, 8 in number on last whorl, and coarser and finer striae, which make the surface slightly crenulate; this sculpture is crossed by spiral lirae, four in number on penultimate whorl, of which the subsutural is the broadest, these lirae are separated by grooves which have the character of intermediate lirae. Colour orange brown on the lirae, dark red-brown in the interstices. Aperture oval, angular above, peristome rather thick, undulated by the lirae, columellar margin concave. Interior of aperture with rib-like lirae at some distance from the peristome, with a tooth at the entrance of canal; columellar margin with a thick layer of enamel, its basal part with 3 plicae, of which the most basal one is double, its left margin ridge-like, leaving an umbilical slit. Canal short, directed to the left. Interior of aperture yellowish, its margin and canal orange, the margin with brown streaks corresponding to the lirae.

Alt. $17^1/_2$, lat. $8^1/_4$; apert. alt. $5^1/_2$, with canal $8^1/_2$, lat. $3^1/_2$ Mill.

This species is allied to the preceding one, but is easily distinguished by its colour, which is just the reverse of *L. turritus*, the lirae being lighter than the interstices, moreover it differs in many details of shape and sculpture. In arrangement of colour it resembles much *Peristernia lauta* Reeve, which has the same sculpture and distribution of colours, but is more slender and there is no white on the ribs, else the differences seem to me to be of no great importance, if compared with the only specimen of *lauta* in my collection, which is however in no excellent condition. I have named the species after Mr. J. C. MELVILL, who has made a special study of the genus and has assisted me by comparing the doubtful specimens, and pointed at the differences between the new species and *P. lauta*.

4. *Latirus formosior* Melvill.

MELVILL. Mem. and Proc. of Manch. Lit. and Philos. Soc. Vol. IV, Ser. 4, 1891, p. 30, Pl. 2, fig. 16.

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton, northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. Lithothamnion. 3 Spec.

MELVILL did not know the habitat of his species, as moreover the colour of two of the specimens is not quite typical, I was in doubt about the identity, which has now been settled by the author.

5. *Latirus lancea* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3556.
KIENER. Coq. Viv. Vol. IV, p. 18, Pl. 9, fig. 2 (*ligula*).
REEVE. Conch. Ic. Vol. IV, Fusus, fig. 52 (*lanceola*).
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 102, Pl. 24, fig. 6, 7.
TRYON. Man. of Conch. Vol. III, p. 90, Pl. 68, fig. 133—135.

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

6. *Latirus arabicus* Melvill.

MELVILL. Mem. and Proc. of Manch. Lit. and Philos. Soc. Vol. 42, 1898, p. 16, Pl. 1, fig. 6 (*Fusus arab.*).
—— Proc. Zool. Soc. Lond. 1901, p. 418.

Stat. 139. 0° 11′ S., 127° 25′ E. Near Batjan. 397 M. Mud, stones and coral. 1 Spec.

The only specimen is a dead shell, which has been agglutinated by a *Xenophora*, as may be seen by a fragment of shell affixed at the canal. As MELVILL (l. c.) had his specimens from a depth of 15 fathoms, it is not probable that the Siboga-specimen has lived at so great a depth, but that it has been washed down, before the *Xenophora* employed it. Originally described as a *Fusus*, MELVILL located it in the genus *Latirus*, in the quoted volume of the Proc. Zool. Soc. Lond. as "the columellar plaits (were) more distinct in subsequent examples than in the type". The Siboga-specimen has 2 strong columellar plaits and one fainter one, so I had easily recognized its generic position, without knowing its specific name.

7. *Latirus polygonus* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3555.
KIENER. Coq. Viv. Vol. V, Turbinella, p. 22, Pl. 13, fig. 2.
REEVE. Conch. Ic. Vol. IV, Turbinella, fig. 1.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 20, Pl. 6, fig. 6, 7; Pl. 7, fig. 1.
TRYON. Man. of Conch. Vol. III, p. 88, Pl. 66, fig. 106—108; p. 67, Pl. 17, fig. 1—7.

Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. Reef. 1 Spec.

8. *Latirus gibbulus* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3557.
KIENER. Coq. Viv. Vol. IV, Fusus, p. 40, Pl. 21, fig. 1 (*filosa*).
REEVE. Conch. Ic. Vol. IV, Turbinella, fig. 36.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 54, Pl. 9*b*, fig. 5, 6.
TRYON. Man. of Conch. Vol. III, p. 88, Pl. 67, fig. 117; Pl. 68, fig. 126.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

One dead shell; the plaits are not developed.

9. *Latirus smaragdulus* Linné.

LINNÉ. Mus. Ulr. p. 610.
KIENER. Coq. Viv. Vol. V, Turbinella, p. 39, Pl. 19, fig. 1 (*rustica*).
REEVE. Conch. Ic. Vol. IV, Turbinella, fig. 18.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 42, Pl. 10, fig. 6, 7.
TRYON. Man. of Conch. Vol. III, p. 96, Pl. 70, fig. 185, 186.

Stat. 225. Near South-Lucipara-island. Reef. 1 Spec.

## Peristernia Mörch.

1. *Peristernia nassatula* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 387.
KIENER. Coq. Viv. Vol. V, Turbinella, p. 42, Pl. 11, fig. 2.
REEVE. Conch. Ic. Vol. IV, Turbinella, fig. 45.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 17, 108, Pl. 5, fig. 10, 11; Pl. 26, fig. 2, 3.
TRYON. Man. of Conch. Vol. III, p. 80, Pl. 64, fig. 44, 45, 46.

Stat. 220. Pasir Pandjang, West coast of Binongka. Reef. 1 Spec.

2. *Peristernia incerta* n. sp. Pl. XIX, fig. 5.

Stat. 301. Pepela-bay, East coast of Rotti-island. 22 M. Mud, coral and Lithothamnion. 3 Spec.

Shell fusiform, spire about half the length, conical; canal moderately long. Whorls 8 or 9, nuclear ones worn, subsequent ones convex at the periphery, slightly concave below the suture, angular by a prominent keel, occupying the median part of upper whorls and by another keel, just above the suture; sculpture consisting of broad, rounded, concentric ribs, 7 in number on last whorl and fine growth-striae, crossed by the two keels described above, which form nearly spines on the ribs and some less prominent ones on the last whorl; moreover numerous finer lirae run over the whorls, four in number between suture and upper keel and occasionally still finer ones, 3 between first and second keel, 3 between this and third keel, one between third and fourth keel and 14 and a few intermediate lirae on lower part of last whorl and canal. Suture undulate, appressed, strongly squamiferous. Aperture oval, angular above, ending in a rather wide canal, slightly curved to the left, peristome thin (probably not quite developed) slightly expanded, angular and crenulated by the lirae; columella concave, slightly enamelled,

with two very faint plaits. Colour yellowish-white, with three interrupted, reddish-brown bands, most conspicuous on the ribs, and numerous spots of the same colour on the finer lirae, base of canal reddish-brown, interior of aperture white, with brown blotches on peristome, corresponding to the interrupted bands.

Alt. 24, lat. 12; apert. alt. 7, with canal 13, lat. 5 Mill.

Mr. MELVILL, to whom I sent the largest specimen, says it is allied to *P. Philberti* and *P. nassatula*, but it differs by shape from both, by the smaller aperture and the much more slender canal, which is more suddenly separated from bodywhorl, moreover it is more distinctly 2-keeled at the periphery than in those species, and the finer sculpture and colour, though similar in some parts, is quite different in many particulars. In prominence of keels it remembers *P. spinosa*, which is however quite different in most other respects.

3. *Peristernia pulchella* Reeve.

REEVE. Conch. Ic. Vol. IV, Turbinella, fig. 65.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 112, Pl. 26, fig. 10, 11.
TRYON. Man. of Conch. Vol. III, p. 81, Pl. 64, fig. 53, 54.

Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. 23—34 M. Sand. 2 Spec.

One of the specimens is bleached and not characteristic, the other is fine.

4. *Peristernia pagodaeformis* Melvill.

MELVILL. Ann. and Mag. Nat. Hist. Ser. 7, Vol. IV, 1899, p. 89, Pl. 1, fig. 8.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 5 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 8 Spec.

The specimens from Stat. 51 are very young, those from Stat. 313 are quite or nearly adult, their provenience from the Malay-archipelago is new as far as I am aware.

5. *Peristernia incarnata* Deshayes.

DESHAYES. Voy. Arab. Laborde, Pl. 65, fig. 20—22.
KIENER. Coq. Viv. Vol. V, Turbinella, p. 45, Pl. 18, fig. 3.
REEVE. Conch. Ic. Vol. IV, Turbinella, fig. 55.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 32, Pl. 7, fig. 2.
TRYON. Man. of Conch. Vol. III, p. 81, Pl. 65, fig. 63.

Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

6. *Peristernia carotiana* Tapparone Canefri.

TAPPARONE CANEFRI. Journ. de Conch. 1882, p. 31.
—— Ann. Soc. Mal. Belg. Vol. XV, p. 79, Pl. 3, fig. 15, 16.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 87, Pl. 22, fig. 4, 5 (*ustulata*).
TRYON. Man. of Conch. Vol. III, p. 84, Pl. 65, fig. 86 (*ustulata* pars).

Stat. 258. Tual, Kei-islands. Reef. 4 Spec.
Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 1 Spec.
Stat. 282. Between Nusa Besi and N.E-point of Timor. 27—54 M. Sand, coral and Lithothamnion. 1 Spec.

I can agree with the opinion of Tapp. Canefri, that KOBELT's figures are quite different from REEVE's *T. ustulata*, so I keep them separate.

7. *Peristernia ustulata* Reeve.

REEVE. Conch. Ic. Vol. IV, Turbinella, fig. 62.
TRYON. Man. of Conch. Vol. III, p. 84, Pl. 65, fig. 85.

Stat. 123. North-bay, Biaru-island. 36—27 M. Stone and Lithothamnion-bottom. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Near West New Guinea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 174. Waru-bay, North coast of Ceram. Reef. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

The specimen from Stat. 123 is rather young and a little doubtful, though it perfectly agrees with the upper whorls of those from Stat. 174 and 240, which are not quite adult but most characteristic.

8. *Peristernia striata* Gray.

GRAY. Zool. Beechey Voy. p. 114.
KIENER. Coq. Viv. Vol. V, Turbinella, p. 43, Pl. 9, fig. 2 (*crenulata*).
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 103, Pl. 25, fig. 2, 3 (*chlorostoma*).
TRYON. Man. of Conch. Vol. III, p. 83, Pl. 65, fig. 80.

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.

I have followed the synonymy of MELVILL in his valuable: "Historical account of the genus Latirus", p. 25 and 44. The specimen is very young.

9. *Peristernia corallina* Melvill and Standen.

MELVILL and STANDEN. Ann. and Mag. Nat. Hist. Ser. 7, Vol. XII, 1903, p, 308, Pl. 22, fig. 11.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells. 1 Spec.
Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Near West New Guinea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 260. Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

I owe the identification of this difficult species to Mr. MELVILL, one of its authors. The Siboga-specimens seem to be a little more slender, than the quoted figure; a specimen of the normal length (13 Mill.) has only a breadth of 8 instead of 9 Mill. Mr. MELVILL writes that though originally only known from Maskat, gulf of Oman, it has lately turned up in 2 or 3 places in the eastern tropics. So its occurence at the above Stations is not at all strange.

## Fam. Turbinellidae.

### **Vasum** (Bolten) Link.

1. *Vasum turbinellus* Linné.

Linné. Syst. Nat. Ed. X, p. 750, N° 466.
Rumph. Amb. Rariteitkamer, p. 81, Pl. 24, fig. B.
Kiener. Coq. Viv. Vol. V, Turbinella, p. 12, Pl. 1 (*cornigera*).
Reeve. Conch. Ic. Vol. IV, Turbinella, fig. 40 (*cornigera*).
Kobelt. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 6, Pl. 1, fig. 4; Pl. 2, fig. 3, 4 (*cornigera*).
Tryon. Man. of Conch. Vol. IV, p. 72, Pl. 21, fig. 16, 20—22.

Stat. 16. Bay of Kankamaraän, S. coast of Kangeang. Stone. 1 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 34. Labuan Pandan, Lombok. 18 M. Coralreef. 3 Spec.
Stat. 37. Sailus ketjil, Paternoster-islands. Reef. 2 Spec.
Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. Reef. 3 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 1 Spec.
Stat. 152. Wunoh-bay, N.W. coast of Waigeu-island. 32 M. 1 Spec.
Stat. 225. Near South point of South Lucipara-island. Reef. 3 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.
Stat. 240. Banda. Reef. 1 Spec.
Stat. 250. Kilsuin, West coast of Kur-island. Reef. 2 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. Reef. 1 Spec.

I have quoted Bolten's generic name, established by Link, as Tryon has done, in accordance with the conclusions of Cossmann: Ess. Palaeoconch. Vol. IV, p. 66.

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## Fam. Buccinidae.

### **Chrysodomus** Swainson.

1. *Chrysodomus (Sipho) Smithi* n. sp. Pl. XIX, fig. 6; Pl. XXIII, fig. 11.

Stat. 122. 1° 58'.5 N., 125° 0'.5 E. Celebes-Sea. 1264—1165 M. Stone. 3 Spec.

Shell fusiform, with conical spire and short canal, thin; white, with a yellowish epidermis; whorls about 5, convex, separated by a conspicuous suture; last whorl strongly convex, upper whorls eroded. Sculpture consisting of strong spiral lirae, separated by narrow grooves, 5 or 6 on penultimate whorl, about 20 on last whorl inclusive canal, with traces of very shallow grooves on a few of the lirae; lirae and interstices crossed by conspicuous growth-striae. Aperture ovate, angular above, ending below in a short, wide canal, peristome regularly curved, thin, undulated by the lirae, columellar margin elegantly curved. Interior of aperture porcellaneous. Operculum typical, corneous.

Alt. $19^1/_2$, lat. 10; apert. alt. with canal $12^1/_2$, lat. $4^1/_2$ Mill.

The radula has about 75 rows of teeth; median tooth (M) with a subquadrate base and three subequal, moderately long cusps, its anterior margin of base is concave. The laterals (1) have

a curved base with two strong cusps. This arrangement induced me to locate the species in the subgenus *Sipho*, of which I know no other representatives from the archipelago. I find the same form of median tooth for *Neptunea = Chrysodomus (Sipho) Verkrüzeni* Kobelt, on page 82 and *N. (Sipho) fusiformis* Brod. on pag. 87 of Kobelt's Iconographie der schalentr. europ. Meeres-Conchylien, Vol. I, though the base is not so broad in those species. For the laterals I find a very similar figure on page 85 (l. c.) for *Nept. undulata* Friele. I have named the species after Mr. E. A. Smith, I.S.O.

## Cyllene Gray.

1. *Cyllene oblonga* n. sp. Pl. XXII, fig. 10.

Stat. 153. 0° 3'.8 N., 130° 24'.3 E. Bougainville-Strait. 141 M. Fine and coarse sand with dead shells. 5 Spec.

Shell elongately-ovate, with rather short, acute spire. Whorls 7, of which the upper 2 nuclear ones are smooth, subsequent whorls concave at the upper part, with a row of tubercles just above the distinct, undulated suture, the 4th and 5th whorl are ribbed and these ribs are tubercled below, the tubercles becoming however less apparent and disappear at last on the penultimate whorl, these two whorls are crossed by spiral striae, about 5 in number, in the concave part, last whorl large, slightly concave above, with fainter ribs below the suture, nearly disappearing on the lower part, with the spiral striae as in the penultimate whorl and a few spiral striae below (inconspicuous in some specimens). Aperture elongate, with a sharp angle above, passing in a short channel, running along last part of suture, outer margin thick, yellowish, with a strong, white labial rib externally and about 20 conspicuous lirae in the interior; basal sinus conspicuous; columellar margin with a transparent layer of enamel, smooth above with conspicuous wrinkles below, where its limit is marked by a sharp brown line, canal short but broad. Colour yellowish brown, with irregular white spots on the upper whorls; last whorl with three zones of white spots, base of shell white, interior of aperture brown.

Alt. $13^1/_2$, lat. $7^1/_4$; apert. alt. 7, lat. $2^1/_2$ Mill.

This species resembles in shape *C. pulchella* Ads. and Reeve, as figured by Sowerby (Thes. Conch. Vol. III, Cyllene Pl. 217, fig. 24, 25), but is still narrower and quite different in colour. In colour-pattern, but not in colour it resembles *C. glabrata* Ads.; these observations are based however, on the rather rude figures of the Thesaurus. The shells are empty, but the described typical specimen is quite fresh, so it may have lived at the recorded depth.

2. *Cyllene Sibogae* n. sp. Pl. XIX, fig. 7.

Stat. 98. 6° 9' N., 120° 21' E. Sulu-archipelago. 350 M. Sand. 1 Spec.

Shell elongately-ovate, with moderately long spire. Whorls nearly 6 (nucleus wanting) angular, upper half concave, lower half nearly straight, last whorl contracted below, consequently more convex; uppermost whorls slightly tuberculate below the conspicuous, undulate suture, which is canaliculate in ultimate and part of penultimate whorl; the whorls are crossed by

elegantly waved folds, which are bluntly tuberculate at the periphery of upper whorls and at the shoulder of last whorl, where they are sharper, 14 in number on last whorl, they disappear at some distance from the aperture. The spiral sculpture consists of elevated striae in the concave part of whorls and at the base of shell, the rest of surface being impressedly striated. Under the lens, fine growth-striae are visible and give a dull appearance to the surface. Colour whitish with brown spots, which are irregular on upper whorls, form large brown bands on beginning of last whorl, the back of which is nearly uniformly brown-grey. Aperture oblong-ovate, with the usual channel above, passing in the sutural channel; peristome rather blunt, smooth, with a sinus below, 16-lirate internally, basal lira stronger and toothlike, the other ones are long; columellar margin nearly straight, rounded, enamelled, with numerous wrinkles in the lower part and a few pustules. Canal rather wide, dorsally bordered by a brown line.

Operculum yellowish-horncoloured, with probably apical (broken) nucleus.

Alt. 18, lat. 9; apert. alt. $8^1/_2$, lat. $3^1/_2$ Mill.

The nearest ally of this species seems to be *C. orientalis* Adams, but the new species is much more elongate, being twice as long as broad, though the nucleus is wanting, the breadth of *C. orientalis* on the contrary is much more though the nucleus is present; in the back view the row of nodules of last whorl, runs about half way the total length of shell, the spire in the new species being longer than in *C. orientalis*, where that row runs considerably higher on. Moreover the colour and sculpture seem to be different, as far as may be judged from the figure.

## Pisania Bivona.

1. *Pisania ignea* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 45.
REEVE. Conch. Ic. Vol. III, Buccinum, fig. 74 (*picta*).
TRYON. Man. of Conch. Vol. III, p. 145, Pl, 71, fig. 190, 191.

Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. Reef. 2 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

## Tritonidea Swainson.

1. *Tritonidea undosa* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 740, N$^0$ 409.
RUMPH. Amb. Rariteitkamer, p. 97, Pl. 29, fig. O.
KIENER. Coq. Viv. Vol. VIII, Buccinum, p. 39, Pl. 12, fig. 41, pars.
REEVE. Conch. Ic. Vol. III, Buccinum, fig. 55.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Buccinum, p. 31, Pl. 7, fig. 6, 7.
TRYON. Man. of Conch. Vol. III, p. 162, Pl. 74, fig. 280—282.

Stat. 34. Labuan Pandan, Lombok. 18 M. Coralreef. 1 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 5 Spec.
Stat. 209. South-point of Kabaëna-island. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. Reef. 1 Spec.

2. *Tritonidea fumosa* Dillwyn.

DILLWYN. Catalogue, p. 269.
KIENER. Coq. Viv. Vol. VIII, Buccinum, p. 39, Pl. 12, fig. 41*a*.
REEVE. Conch. Ic. Vol. III, Buccinum, fig. 51 (*proteus*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Buccinum, p. 31, Pl. 7, fig. 3, 4 (*undosum* pars).
TRYON. Man. of Conch. Vol. III, p. 155, Pl. 73, fig. 247—250.

Stat. 58. Seba, Savu. Reef. 1 Spec.
Stat. 86. Dongala, Palos-bay, Celebes. 36 M. Fine grey mud. 1 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 2 Spec.
Stat. 133. Lirung, Salibabu-island. Reef. 1 Spec.
Stat. 142. Laiwui, coast of Obi Major. Reef. 1 Spec.
Stat. 174. Waru-bay, North coast of Ceram. Reef. 1 Spec.
Stat. 231. Amboina. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.

REEVE's name "*Proteus*" so characteristic for the species is quite applicable to the Siboga-specimens.

3. *Tritonidea dentata* n. sp. Pl. XIX, fig. 8.

Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.

Shell elongately-ovate, white, with traces of yellowish-brown on upper lirae and near the base, covered by a yellowish epidermis, which is lamellose and pilose. Whorls about 7, of which probably 2 nuclear ones are smooth; subsequent whorls convex, even inflated at some distance from the deep suture. Sculpture consisting of numerous concentric ribs, about 21 on penultimate whorl and strong spiral lirae or ribs, crossing the concentric ones, about 19 on last whorl and canal, giving to the surface a cancellated appearance, moreover the shell has conspicuous lines of growth; last whorl slightly contracted towards the base. Aperture elongately-ovate, rounded above, ending below in a rather narrow canal, slightly directed towards the left; peristome rather thin, undulate by the termination of the external lirae, thickened and strongly lirate interiorly, with 12 lirae of which the basal one bordering the canal, forms a tooth, columellar margin concave, with one strong and two fainter plicae towards its base. Interior of aperture white.

Alt. 26, lat. 13; apert. alt. 13, lat. 5 Mill.

I know no species with which to compare the new one; as the operculum and the soft parts are wanting, I was in doubt even about its generic position, the more so as the rather conspicuous tooth at the base of peristome puzzled me. Mr. SMITH who compared the shell for me in the British Museum, declared it to be a *Tritonidea*. On close comparison I find a few species of that genus which have traces of a tooth on the peristome, but no one where its place is so near the base.

4. *Tritonidea*? sp.

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.

From this locality a young shell seemed to belong to one of the recently described

Colubrarian genera, as its apex is truncated. I could not however associate it with any of the known species. Mr. SMITH who had the kindness to compare it, thinks it may be a *Tritonidea*. I follow his advice, but at the same time abstain myself from naming and describing it, as it is a small shell, with thin, broken peristome, without prominent characters.

### **Colubraria** Schumacher.

1. *Colubraria compta* Sowerby.

SOWERBY. Proc. Zool. Soc. Lond. 1874, p. 598, Pl. 72, fig. 2.
TRYON. Man. of Conch. Vol. III, p. 27, Pl. 16, fig. 157 (*obscurus*).

Stat. 66. Bank between islands of Bahuluwang and Tambolungan, South of Saleyer. 8—10 M. Dead coral, Halimeda, Lithothamnion. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 1 Spec.

Unfortunately the specimens are young and not in very good condition. TRYON thinks it is a synonym of *T. obscurus*. ADAMS has in 1854 (Proc. Zool. Soc. Lond. 1854, p. 312) described a *Triton* under the same name, which should have priority, this has not been figured. As the soft parts are wanting in this and the next species, I have not been able to determine the position of the typical species of *Colubraria*, after the elimination of *Caducifer* and *Maculotriton*; I have made several efforts to get a specimen of the typical section containing the "animal", but till now in vain.

2. *Colubraria* sp.

Stat. 104. Sulu-harbour, Sulu-island. 14 M. Sand. 1 Spec.

Too young for identification.

3. *Colubraria antiquata* Hinds.

HINDS. Voy. Sulphur, Vol. II, Pl. 4, fig. 78.
REEVE. Conch. Ic. Vol. II, Triton, fig. 80.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, p. 251, Pl. 68, fig. 9, 10.
TRYON. Man. of Conch. Vol. III, p. 28, Pl. 15, fig. 134.

Stat. 66. Bank between islands of Bahuluwang and Tambolungan, South of Saleyer. 8—10 M. Dead coral, Halimeda, Lithothamnion. 1 Spec.

As the soft parts are wanting, I have located this species in the genus *Colubraria*.

### **Phos** Montfort.

1. *Phos senticosus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 751, N$^{0}$ 474.
RUMPH. Amb. Rariteitkamer, p. 97, Pl. 29, fig. N.
KIENER. Coq. Viv. Vol. VIII, Buccinum, p. 26, Pl. 9, fig. 31.
SOWERBY. Thes. Conchyl. Vol. III, p. 89, Pl. 1, fig. 8—11.
TRYON. Man. of Conch. Vol. III, p. 215, Pl. 83, fig. 479—483.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 2 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 104. Sulu-harbour, Sulu-island. 14 M. Sand. 1 Spec.
Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand very fine. 1 Spec.

2. *Phos roseatus* Hinds. Pl. XXIII, fig. 12.

Hinds. Voy. Sulphur. Vol. II, p. 38, Pl. 10, fig. 9, 10.
Sowerby. Thes. Conchyl. Vol. III, p. 90, Pl. 1, fig. 1—3.
Tryon. Man. of Conch. Vol. III, p. 217, Pl. 83, fig. 508, 509.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 58. Seba, Savu. Up to 27 M. Sand. 1 Spec.
Stat. 60. Haingsisi, Samau-island, near Timor. 3 M. Lithothamnion. 3 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 3 Spec.
Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 2 Spec.
Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 2 Spec.
Stat. 231. Amboina. Reef. 1 Spec.
Stat. 302. 10° 27′.9 S., 123° 28′.7 E. Timor-Sea. 216 M. Sand and coralsand. 3 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 13 Spec.

One of the specimens of the last named locality is remarkable by its peculiar colour-pattern, consisting of redbrown spiral lines on the lirae, 7 in number on the penultimate whorl, on a pale ground, as the shape and sculpture are however the same as in the other specimens, I think it deserves even no varietal name. The specimens from Stat. 302 (216 M.) are dead shells. The radula has about 63 rows of teeth; the median tooth (M) is broad with a concave anterior margin, with the characteristic lappets on each side; the convex posterior margin, has 3 cusps, of which the median one is the largest; the laterals (1) have 2 strong teeth, of which the distal one is by far the strongest, it is in proportion shorter but thicker than in *P. senticosus* as figured by Troschel (Gebiss der Schnecken, Vol. II, Pl. 8, fig. 1).

3. *Phos textus* Gmelin.

Gmelin. Syst. Nat. Ed. XIII, p. 3493.
Kiener. Coq. Viv. Vol. VIII, Buccinum, p. 29, Pl. 11, fig. 38 (*Blainvillii*).
Reeve. Conch. Ic. Vol. III, Buccinum, fig. 100 (*Blainvillii*).
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Buccinum, p. 14, Pl. 4, fig. 5—7; Pl. 5, fig. 15, 16.
Sowerby. Thes. Conch. Vol. III, p. 93, Pl. 2, fig. 42, 43.
Tryon. Man. of Conch. Vol. III, p. 217, Pl. 83, fig. 498, 500, 501.

Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 2 Spec.
Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 5 Spec.
Stat. 89. Pulu Kaniungan ketjil. Reef. 1 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion, sand and coral. 1 Spec.
Stat. 123. North-bay, Biaru-island. 36—27 M. Stone and Lithothamnion. 2 Spec.
Stat. 184. Kampong Kelang, South coast of Manipa-island. 36 M. Coral, sand. 1 Spec.
Stat. 231. Amboina. Reef. 1 Spec.

Stat. 240. Banda. 9—45 M. Black sand and Lithothamnion. 9 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 11 Spec.
Stat. 271. 5° 46′.7 S., 134° 0′ E. Arafuru-Sea. 1788 M. Bluish green mud. 1 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. 22 M. Mud, coral and Lithothamnion. 2 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 8 Spec.

The specimen from Stat. 271, a young empty shell, certainly has not lived at that great depth. The specimens vary in the development of the spiral lirae, which are more or less conspicuous, some specimens from Banda f. i. are scarcely angular; one specimen from Stat. 258 has a golden band and a young one from Stat. 313 has 2 brown bands, but is typical in sculpture. The length of the spire is not constant. These differences in shape, colour and sculpture, seem to be individual, as specimens from the same locality are connected by intermediate one *Phos varians* Sow. may have been established on such an aberrant form.

4. *Phos nodicostatus* A. Adams. Pl. XXIV, fig. 1.

A. Adams. Proc. Zool. Soc. Lond. 1850, p. 154.
Sowerby. Thes. Conchyl. Vol. III, p. 93, Pl. 2, fig. 47.
Tryon. Man. of Conch. Vol. III, p. 216, Pl. 83, fig. 506 (*senticosus* pars).

Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.
Stat. 99. North-Ubian. 16—23 M. Lithothamnion-bottom. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand and Lithothamnion. 3 Spec.
Stat. 248. Rumah Lusi, North point of Tiur-island. 36 M. 3 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.
Stat. 311. Sapeh-bay, East coast of Sumbawa. Up to 36 M. 1 Spec.

I see no distinct brown band, as described by Adams and figured by Sowerby, even not in specimens taken alive, but the shells perfectly agree with a specimen in my collection, formerly named by Mr. E. A. Smith. I think Tryon is quite wrong in uniting this species to *Ph. senticosus*.

The radula of a specimen from Stat. 248 has the teeth in about 50 rows; the median ones (M) are similar to those of *Ph. roseatus*, but the base is stronger and not so broad, the central of the 3 denticles is stronger; the laterals (1) have the usual 2 cusps, of which the distal one is more slender and longer than in *roseatus*; the whole radula more resembles that of *Ph. cancellatus* (= *textus*) as figured by Troschel (Gebiss der Schnecken, Vol. II, Pl. 8, fig. 2).

5. *Phos minutus* n. sp. Pl. XIX, fig. 9.

Stat. 306. 8° 27′ S., 122° 54′.5 E. Savu-Sea. 247 M. Sandy mud. 28 Spec.

Shell elongately ovate, transparent white (in fresh specimens), whorls about $6^1/_2$, of which about $3^1/_2$ from a large nucleus, with convex, smooth whorls, with one peripheral thread-like keel, accompanied on nearly 2 whorls by a second one near the basal suture, and perhaps a few axial ribs, the limits of nucleus are however not conspicuous, so I am not quite certain if these ribs still belong to the nucleus. Subsequent whorls, very convex, with deep suture, with

narrow, rounded ribs, about 12 in number on last whorl, crossed by thin lirae in upper part of whorls and in the basal part of last whorl; the lower part of upper whorls and median part of last one being impressedly striate. These lirae in crossing the ribs, make them nodulous to nearly spinose, slightly crenulate on lower part, and again granose on the base of last whorl, else the interspaces of the ribs are smooth, but for fine growth-striae. Aperture oblong-oval, rather bluntly angular above; peristome not thick, though thickened exteriorly, a little backwards, by a stronger rib, lirate internally, at some distance from the peristome, by about 15 lirae; columellar margin rounded, smooth, with a conspicuous, oblique basal fold and traces of a second one, a little higher on. Canal shallow, wide, slightly directed to the left.

Alt. 10, lat. $4^3/_4$; apert. alt. (with canal) 5, lat. 2 Mill.

This small species is very different from any species I know, but its generic characters agree with those of the known species of *Phos*; unfortunately the dredging consists of more or less fresh shells, without the soft parts; the specimens vary in the development of the spiral lirae as mentioned above, but in other respects they have all the same specific character.

## **Engina** Gray.

1. *Engina astricta* Reeve.

REEVE. Conch. Ic. Vol. III, Ricinula, fig. 30.
TRYON. Man. of Conch. Vol. V, p. 189, Pl. 61, fig. 14.

Stat. 144. North of Salomakiëe-(Damar-)island. 45 M. Coral bottom and Lithothamnion. 1 Spec.

REEVE did not know the habitat of this species. SMITH recorded it from the Andaman isles, v. MARTENS from Mauritius, HIDALGO from Cebu, the locality of the Siboga-specimen is in accordance herewith.

2. *Engina sinensis* Melvill.

MELVILL. Proc. Mal. Soc. Lond. Vol. I, 1895, p. 227, Pl. 14, fig. 14.
—— Cat. Hadfield Collection of Shells, 1895, p. 106, Pl. 3, fig. 27.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral and Lithothamnion. 1 Spec.

The only specimen from Stat. 240, which is in good condition, agrees as much as can be desired with somewhat worn specimens from Lifu; that from Stat. 33 is not adult, at least the peristome is still thin, it is larger ($13^1/_2$ Mill.), the central white band is less developed, it seems to be notwithstanding these differences, only a somewhat larger form of *E. sinensis*.

3. *Engina histrio* Reeve. Pl. XXIV, fig. 2.

REEVE. Conch. Ic. Vol. III, Ricinula, fig. 36.
TRYON. Man. of Conch. Vol. V, p. 189, Pl. 61, fig. 19 (*alveolata* pars).

Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 2 Spec.
Stat. 34. Labuan Pandan, Lombok. Reef. 1 Spec.

Stat. 86. Dongala, Palos-bay, Celebes. 36 M. Fine grey mud (river mud). 1 Spec.
Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. Reef. 1 Spec.
Stat. 250. Kilsuin, West coast of Kur-island. Reef. 1 Spec.
Stat. 296. Noimini, South coast of Timor. Reef. 1 Spec.
Stat. 322. $1^1/_2$ mile south of Tandjong Lajar, South coast of Bawean-island. 32 M. Coral. 1 Spec.

The operculum has a basal nucleus, it is beautifully coloured, yellowish-orange, with a black streak running from the nucleus to the opposite border.

The radula has the teeth in about 90 rows; the median tooth (M) has a slightly curved base, with concave anterior and convex posterior margin, with 5 rather long denticles and one very small one on each side, making 7 in all; the laterals (1) are tricuspidate, the distal cusp is by far the longest, the median one is small but distinct. This radula only moderately agrees with that of *E. mendicaria*, which according to TROSCHEL (Gebiss der Schnecken, Vol. II pl. 8, fig. 4), has a tricuspidate, median tooth, with very small cusps in the interstices and on the side, and bicuspidate laterals. However the radula is by no means Columbelloid. (See sub *E. mendicaria*).

4. *Engina trifasciata* Reeve.

REEVE. Conch. Ic. Vol. III, Ricinula, fig. 41.
TRYON. Man. of Conch. Vol. V, p. 189, Pl. 61, fig. 20 (*alveolata* var.).

Stat. 34. Labuan Pandan, Lombok. Coralreef. 1 Spec.
Stat. 81. Pulu Sebangkatan, Borneo-bank. Reef. 1 Spec.
Stat. 225. Near South point of South Lucipara-island. Reef. 1 Spec.
Stat. 279. Ruma-Kuda-bay, Roma-island. Reef. 1 Spec.

TRYON (l. c.) says of this species: "a scarcely distinguishable variety, in which the decussation is not so strongly marked as in the typical forms". I think, after comparing many specimens with the former species, which TRYON thinks to be a synonym of *alveolata*, that it may be recognized without much difficulty.

5. *Engina lineata* Reeve.

REEVE. Conch. Ic. Vol. III, Ricinula, fig. 51.
TRYON. Man. of Conch. Vol. V, p. 194, Pl. 62, fig. 50.

Stat. 142. Laiwui, coast of Obi Major. Reef. 1 Spec.

6. *Engina zonata* Reeve.

REEVE. Conch. Ic. Vol. III, Ricinula, fig. 33.
TRYON. Man. of Conch. Vol. V, p. 194, Pl. 63, fig. 52.

Stat. 240. Banda. Reef. 2 Spec.

The specimen is very young and in no very good condition, but agrees with the upper whorls of specimens in my collection, formerly named by Mr. E. A. SMITH. Though REEVE records it only from the Gallapagos Is., this may be an error, at least HIDALGO records it from the Philippines.

7. *Engina elegans* Dunker.

DUNKER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 33, Pl. 8, fig. 4.
REEVE. Conch. Ic. Vol. III, Ricinula, fig. 20 (*pulchra*).

Stat. 159. 0°59'.1 S., 129°48'.8 E. Halmahera Sea. 411 M. Coarse sand. 1 Spec.
Stat. 240. Banda. Reef. 1 Spec.

I am not certain about the identification of the specimen from Stat. 159, which is a young whitish (bleached?) shell. I have followed Mr. MELVILL's opinion, with respect to the synonymy of this species, which has by many authors been referred to *Peristernia*. (Cf. Proc. Mal. Soc. Lond. III, p. 221).

8. *Engina contracta* Reeve.

REEVE. Conch. Ic. Vol. III, Ricinula, fig. 32.
TRYON. Man. of Conch. Vol. V, p. 193, Pl. 62, fig. 41.

Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral and coralsand. 2 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 5 Spec.
Stat. 99. North-Ubian. 16—23 M. Lithothamnion-bottom. 2 Spec.
Stat. 162. Between Loslos and Broken-islands, West coast of Salawatti. 18 M. Coarse and fine sand with clay and shells. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 2 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral and Lithothamnion. 4 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 2 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.

I owe the identification of this species to Mr. E. A. SMITH, for though I had recognized the resemblance with REEVE's figure, his: "Hab. Panama and St. Elena, West Columbia" made me very doubtful. Mr. SMITH whom I asked about this question, thinks that locality may be an error. Recently W. H. DALL (Report on a collection of shells from Peru, with a summary of the littoral marine mollucca of the Peruvian Zool. province, Proc. U. S. Nat. Mus.-Vol. 37, Nov. 1909) enumerates *E. contracta* Reeve (l. c. p. 214) with the locality Gulf of Panama to Guayaquil. For want of materials to get an opinion, I follow the suggestions of Mr. SMITH.

9. *Engina (Pusiostoma) mendicaria* Linné. Pl. XXIV, fig. 3.

LINNÉ. Syst. Nat. Ed. X, p. 731, N° 360.
KIENER. Coq. Viv. Vol. III, Columbella, p. 48, Pl. 6, fig. 1.
REEVE. Conch. Ic. Vol. III, Ricinula, fig. 8.
TRYON. Man. of Conch. Vol. V, p. 196, Pl. 63, fig. 72, 73.

Stat. 34. Labuan Pandan, Lombok. Coralreef. 3 Spec.
Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. Coral and coralsand. 6 Spec.
Stat. 47. Bay of Bima, 55 M. Mud with patches of fine coralsand. 2 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 81. Pulu Sebangkatan, Borneo-bank. Reef. 1 Spec.
Stat. 142. Laiwui, coast of Obi Major. Reef. 4 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.

The radula has the median tooth (M) slightly different from that figured by TROSCHEL

(see *E. histrio*) the margin having 3 large denticles with only one small one on each side, but not between the larger cusps, moreover the distal cusp of the central ones is not so long; as to the small denticles of the median tooth, this difference may be individual, one finds often such accessory denticles in one specimen but not in another, or even in different rows of the same radula.

### **Metula** H. & A. Adams.

1. *Metula daphnelloides* Melvill and Standen.

MELVILL & STANDEN. Ann. and Mag. Nat. Hist. Ser. 7, Vol. XII, 1903, p. 30, Pl. 22, fig. 9.

Stat. 306. 8° 27′ S., 122° 54′.5 E. Savu-Sea. 247 M. Sandy mud. 9 Spec.

The specimens are dead and the majority is bleached, however one small specimen possesses "the obscure straw maculations". I was struck by the peculiar shape and sculpture of the nuclear whorls, as described l. c., but was not quite certain about the identification, as the whorls seemed to be more convex and the peristome was much more contracted below. Mr. MELVILL had the kindness to compare them with his typical specimens and is of opinion that though the canal of the larger specimens is more produced, it is identical with *M. daphnelloides*. *Metula andamanica* Smith (Ann. and Mag. Nat. Hist. Ser. 7, Vol. XVII, 1906, p. 165) seems to be the nearest ally, the description of the nuclear whorls being very similar.

### **Nassaria** Link.

1. *Nassaria nivea* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3504.
REEVE. Conch. Ic. Vol. II, Triton, fig. 75.
SOWERBY. Thes. Conchyl. Vol. III, Nassaria, p. 87, Pl. 1, fig. 1, 2.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Hindsia, p. 315, Pl. 77, fig. 1, 2.
TRYON. Man. of Conch. Vol. III, p. 221, Pl. 84, fig. 535, 536.

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 2 Spec.

Both specimens are young, empty shells.

2. *Nassaria suturalis* A. Adams. Pl. XXIV, fig. 4.

A. ADAMS. Proc. Zool. Soc. Lond. 1853, p. 183.
SOWERBY. Thes. Conchyl. Vol. III, Nassaria, p. 86, Pl. 1, fig. 15, 16.
KOBELT. Martini-Chemn. Conch Cab. Ed. II, Vol. III, Hindsia, p. 318, Pl. 77, fig. 11, 12.
TRYON. Man. of Conch. Vol. III, p. 221, Pl. 84, fig. 542 (*acuminata* pars).

Stat. 5. 7° 46′ S., 114° 30′.5 E. Bali-Sea. 330 M. Mud. 1 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 3 Spec.
Stat. 60. Haingsisi, Samau-island, near Timor. 3 M. Lithothamnion. 4 Spec.
Stat. 154. 0° 7′.2 N., 130° 25′.5 E. Bougainville-Strait. 83 M. Grey muddy sand, shells and Lithothamnion. 1 Spec.

The specimens from Stat. 5 and 60 are young, the other ones are well developed. The

radula of a male specimen from Stat. 33, has the teeth in 3 longitudinal rows, so the species belongs without doubt to the Rachiglossa, which seemed to be still a little doubtful to some authors. They are placed in about 90 subsequent rows; the median tooth (M) is rather broad, with a curved base and 5 cusps, of which the median one is somewhat shorter than the lateral ones; the laterals (1) have the buccinoid type, with two strong cusps, of which the distal one, if the radula be expanded, is by far the largest. KOBELT (l. c. p. 314) writes on the genus: "wenn *Hindsia (= Nassaria)* wirklich zu den Rachiglossen gehört".

The operculum seems to have a terminal nucleus, but serrate margins; with 7 teeth on the left, 8 on the right side; this is not in accordance with the description of ADAMS, who (l. c. p. 182) says: "Operculum horny, ovately unguiform, the margin entire". This statement has been translated by SOWERBY (l. c. p. 85) in latin. KOBELT does not mention it. TRYON, (l. c. p. 104) says nothing about the margins. TRYON's figure of the radula of *N. acuminata* (l. c. Pl, 27, fig. 34) differs but little from my figure, but the median tooth is 6-cuspidate, with 2 smaller central cusps, his figure is a copy of that of TROSCHEL (Archiv für Naturgesch. 1868, pl. 3, fig. 4) which I have not at hand.

3. *Nassaria acuminata* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 116.
—— Conch. Ic. Vol. II, Triton, fig. 54.
SOWERBY. Thes. Conchyl. Vol. III, p. 85, Pl. 1, fig. 10.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Hindsia, p. 316, Pl. 76, fig. 7, 8.
TRYON. Man. of Conch. Vol. III, p. 221, Pl. 84, fig. 539, 540.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 3 Spec.
Stat. 260. Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 289. 9° 0'.3 S., 126° 24'.5 E. 112 M. Mud, sand and shells. 1 Spec.

A specimen from Stat. 100 is a young worn shell, having some resemblance with this species, but slightly differing in sculpture, the canal is broader and I see narrow brown lines. I cannot refer it to another known species; it is too bad for description, so I only wish to mention it.

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Fam. NASSIDAE.

**Nassa** Lamarck.

1. *Nassa arcularia* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 737, N° 395.
KIENER. Coq. Viv. Vol. VIII, Buccinum, p. 94, Pl. 28, fig. 115.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 25.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Buccinum, p. 18, Pl. 4, fig. 19—21.
TRYON. Man. of Conch. Vol. IV, p. 24, Pl. 7, fig. 9, 10.

Stat. 16. Bay of Kankamaraän, S. coast of Kangeang. 22 M. 1 Spec.
Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.
Stat. 89. Pulu Kaniungan ketjil. Reef. 1 Spec.
Stat. 169. Atjatuning, West coast of New Guinea. Reef. 1 Spec.
Stat. 231. Amboina. Reef. 1 Spec.

2. *Nassa pulla* Linné var.?

LINNÉ. Syst. Nat. Ed. X, p. 737, N⁰ 396.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 22.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Buccinum, p. 37, Pl. 8, fig. 6, 7.
TRYON. Man. of Conch. Vol. IV, p. 24, Pl. 7, fig. 12.

Stat. 260. Near Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 277. Kulewatti-bay, Dammer-island. 18 M. Sand, white and black mixed. 1 Spec.

The specimen from Stat. 260 is very small, those from Stat. 277 are still much smaller than those I possess from the Red Sea. The specimens are peculiar by their largely spread callosity and dark colour of back. *N. pulla* is still a rather doubtful species, considered by many authors to be only a variety of the preceding species.

3. *Nassa coronata* Bruguière.

BRUGUIÈRE. Dict. N⁰ 46.
KIENER. Coq. Viv. Vol. VIII, Buccinum, p. 97, Pl. 28, fig. 112.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 20.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Buccinum, p. 36, Pl. 8, fig. 4, 5.
TRYON. Man. of Conch. Vol. IV, p. 23, Pl. 7, fig. 7, 8.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 1 Spec.
Stat. 89. Pulu Kaniungan ketjil. 11 M. Coral. 2 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion, sand and coral. 3 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 3 Spec.

The dark and whitish specimens are mixed at the same localities.

4. *Nassa (Arcularia) thersites* Bruguière.

BRUGUIÈRE. Enc. Meth. Pl. 394, fig. 8.
KIENER. Coq. Viv. Vol. VIII, Buccinum, p. 99, Pl. 28, fig. 113.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 65.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Buccinum, p. 16, Pl. 4, fig. 14—16.
TRYON. Man. of Conch. Vol. IV, p. 25, Pl. 7, fig. 20, 21.

Stat. 86. Dongala, Palos-bay, Celebes. 36 M. Fine grey mud (rivermud). 2 Spec.

Both specimens are typical and easily distinguishable from the next species, with which TRYON united it, and is followed by other authors. Indeed both forms may be only varieties of one and the same species.

5. *Nassa (Arcularia) bimaculosa* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 102.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 61.
TRYON. Man. of Conch. Vol. IV, p. 25, Pl. 7, fig. 22.

Stat. 174. Waru-bay, North coast of Ceram. 18 M. Mud. 4 Spec.

Though this species as stated above, is easily recognizable by its shorter, stouter shape, its mainly stronger sculpture and especially by the two dark spots on the much thickened peristome, its specific rank is at least very questionable.

6. *Nassa (Arcularia) immersa* Carpenter.

Stat. 260. Near North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.

Tryon says of this species in his index of Vol. IV (Man. of Conch.), that it is a synonym of *N. bimaculosa*. Marrat (On the varieties of the shells belonging to the genus Nassa, p. 74 N° 1249) considers it to be a variety of *bimaculosa*. I think the species is sufficiently characterized by its enormously developed callosity, partly covering the spire, to be provisionally considered as a good species. The Siboga-specimen is bleached and slightly worn, but I have a fresh specimen, formerly identified by Mr. E. A. Smith, from South-Sumatra (Lampongs), which agrees in every essential respect. I failed to find the original description.

7. *Nassa (Arcularia) leptospira* A. Adams.

A. Adams. Proc. Zool. Soc. Lond. 1851, p. 103.
Reeve. Conch. Ic. Vol. VIII, Nassa, fig. 84.
Tryon. Man. of Conch. Vol. IV, p. 25, Pl. 7, fig. 24.

Stat. 86. Dongala, Palos-bay, Celebes. Reef. 1 Spec.

The specimen is of a rather stout shape, showing affinity to the next species.

8. *Nassa (Arcularia) globosa* Quoy & Gaimard.

Quoy & Gaimard. Voy. Astrolabe, Vol. II, p. 448, Pl. 32, fig. 25—27.
Kiener. Coq. Viv. Vol. VIII, Buccinum, p. 101, Pl. 27, fig. 108 (*clathratum*).
Reeve. Conch. Ic. Vol. VIII, Nassa, fig. 62.
Tryon. Man. of Conch. Vol. IV, p. 26, Pl. 8, fig. 37, 38.

Stat. 86. Dongala, Palos-bay, Celebes. 36 M. Fine grey mud (river mud). 1 Spec.
Stat. 174. Waru-bay, North coast of Ceram. 18 M. Mud. 2 Spec.
Stat. 323. Sangkapura-roads, Bawean-island. 12 M. Mud. 8 Spec.

9. *Nassa (Alectryon) elegans* Kiener.

Kiener. Coq. Viv. Vol. VIII, Buccinum, p. 56, Pl. 24, fig. 97.
Tryon. Man. of Conch. Vol. IV, p. 27, Pl. 8, fig. 47 (*glans* var.).

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 5 Spec.
Stat. 47. Bay of Bima, near South fort. Shore. 3 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 7 Spec.
Stat. 169. Atjatuning, West coast of New Guinea. 57 M. Mud. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 8 Spec.

I think this species differs sufficiently from *N. glans* to be kept separate. Tryon unites it with *N. glans* as a variety, but his description, mentioning "the revolving brown lines" of

which KIENER (l. c.) says nothing, makes it doubtful to me, that TRYON has known the true *elegans*. The Siboga-specimens very well agree with KIENER's description and figure, though in most specimens the spire is slightly shorter. I can not make out if REEVE's fig. 10 in his monograph of *Nassa*, be this species or *N. taenia* as TRYON suggests, as REEVE has given only a back view. However I should incline to think REEVE's figure may be a large *N. elegans*.

var. *fulgurans* n. var. Pl. XIX, fig. 10.

Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.
Stat. 279. Ruma-Kuda-bay, Roma-island. 36 M. Mud and sand. 1 Spec.

Shell differing from the type in colour-markings, the variety being painted with brown on lower whorls, having especially in the specimen from Stat. 279 the character of fulgurations or ziczac-lines, the specimen from Stat. 204 is a little bleached.

That from Stat. 204 sufficiently agrees in sculpture of upper whorls with the type, in that from Stat. 279 the riblets are coarser and extend over more whorls, only a little more than 2 whorls remaining ribless.

10. *Nassa (Alectryon) flammulata* n. sp. Pl. XIX, fig. 12.

Stat. 279. Ruma-Kuda-bay, Roma-island. 36 M. Mud and sand. 2 Spec.

Shell ovately-conical, with rather long spire, dark flesh-coloured, with irregular brown flames, forming a more or less conspicuous brown spot on the back of last whorl. Whorls 9, of which 3 smooth ones form the nucleus, which has a brown subsutural band and a peripheral keel. Subsequent whorls with strong, rounded ribs, which are at first narrower than the spirally striated interstices, then about equal in breadth, and disappear on the 8th whorl, the last being quite smooth, but for microscopic growth-striae, very inconspicuous spiral striae and about 5 deep basal striae or grooves; the whorls are rather convex, separated by a deep suture. Aperture broadly oval, slightly canaliculate above, peristome with a blunt border, internally with about 17 irregular lirae, which are not strong, with exception of the basal one, bordering the canal, which is toothlike. Columellar margin with a rather strong layer of enamel, callous at the upper part near the upper canal, a strong, short fold at some distance from the callous margin and a row of small guttules; basal fold thick, nearly toothlike in front. Basal canal rather deep, callously bordered.

Alt. 16, lat. $8^3/_4$; apert. alt. (with canal) 8, lat. $4^3/_4$ Mill.

Alt. $14^1/_4$, $7^1/_4$; apert. alt. (with canal) $6^1/_2$, lat. 4 Mill.

Of the two specimens only the smallest is adult and has chiefly served for description; the largest, though full-grown, has the aperture not yet developed, its margin being smooth and should locate the species in the Section *Nassa* s. str., together with *N. mutabilis*. As the shells are in other respects identical, I think they are best located in *Alectryon*. The nearest ally may be *N. elegans*, but the crassicostate upper postnuclear whorls are quite different from those of that species.

11. *Nassa (Alectryon) elegantula* n. sp. Pl. XIX, fig. 11.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 2 Spec.
Stat. 294. 10° 12'.2 S., 124° 27'.3 E. Timor Sea. 73 M. Soft mud with very fine sand. 1 Spec.
Stat. ? 6 Spec.

Shell elongately-ovate, with rather acuminate spire, very smooth and shining, cream-coloured, with two more or less conspicuous reddish-brown bands, more distinct only on the back of last whorl, one of them below the suture, the other at the periphery. Whorls about 9, of which $3^1/_2$ form a smooth nucleus, with a peripheral keel, the next whorls are costate, ribs about as large as the interstices, they are crossed on the upper whorls by inconspicuous spiral lirae, which disappear as well as the ribs with age, the 7th whorl is only ribbed without spirals, on the penultimate whorl these ribs become also obsolete, till on the last whorl only a row of large beads remains, giving a coronated appearance to it; these beads are also traceable on the upper whorls; base of last whorl grooved, moreover very fine growth-striae cross the shell. The whorls are rather convex, separated by a conspicuous, slightly canaliculate suture; aperture elongate, canaliculate above, peristome with a narrow, slightly reflected margin and a broad, flat rib behind it, with about 7 denticles on its basal part, internally with about 16 lirae, of which that bordering the canal, is very strong, nearly toothlike; columellar margin callous, wrinkled in its whole length, with a stronger wrinkle above, ending below in an oblique, strong fold. Canal rather deep, narrow. Interior of aperture faintly brown.

Alt. 25, lat. 13; apert. alt. (with canal) 12, lat. 6 Mill.

I cannot identify this species with any known one. It has some resemblance with *N. laevigata* Marrat (On some proposed new forms of the genus Nassa; p. 2, Pl. 1, fig. 7) but is much more elongated and differs in the particulars of the aperture, that species having f. i. a smooth peristome. It resembles fig. 11 of the same plate (*N. plicosa* Krauss, curious var.) in colour but not in shape. *N. hirta* may also be allied, but is quite different in many particulars of the aperture and sculpture. Unfortunately the precise locality of the best specimens is not known; those from Stat. 2 are young, that from Stat. 274 is much smaller and perhaps by some particularity of the bottom, more reddish-brown, but it quite agrees in shape and sculpture.

12. *Nassa (Alectryon) monilis* Kiener.

Kiener. Coq. Viv. Vol. VIII, Buccinum, p. 68, Pl. 11, fig. 40.
Reeve. Conch. Ic. Vol. VIII, Nassa, fig. 38.
Tryon. Man. of Conch. Vol. IV, p. 28, Pl. 9, fig. 60.

Stat. 277. Kulewatti-bay, Dammer-island. Reef. 2 Spec.

13. *Nassa (Alectryon) nodifera* Powis.

Powis. Proc. Zool. Soc. Lond. 1835, p. 95.
Reeve. Conch. Ic. Vol. VIII, Nassa, fig. 23.
Tryon. Man. of Conch. Vol. IV, p. 28, Pl. 8, fig. 55 (*hirta* pars).

Stat. 311. Sapeh-bay, East coast of Sumbawa. 3 Spec.

Tryon thinks this form to be "if the figure of Reeve is correct, only a very broad,

short, large specimen of *N. hirta*", he says it is not a satisfactorily determined form. The fault of REEVE is to give only a dorsal view; as REEVE gives as habitat "Galapagos islands and Panama", I sent a specimen to Mr. E. A. SMITH, who found it identical; so TRYON may be right in suggesting that these localities are incorrect. HIDALGO (Cat. de los Mol. test. d. l. islas Filipinas etc.) records it from several Philippine islands, MELVILL (Proc. Zool. Soc. Lond. 1901, p. 411) from Bombay. Quite recently I have received a specimen from Singapore.

14. *Nassa (Alectryon) bifaria* Baird.

BAIRD. Cruise of the Curaçao, p. 436, Pl. 38, fig. 1, 2.
SMITH. Proc. Zool. Soc. Lond. 1878, p. 808, Pl. 50, fig. 7.
TRYON. Man. of Conch. Vol. IV, p. 28, Pl. 8, fig. 59 (*hirta* var.).

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 4 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 2 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 279. Ruma-Kuda-bay, Roma-island. 36 M. Mud and sand. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 4 Spec.

TRYON pronounces this species to be only "a stumpy variety" of *N. hirta*, I think he had never seen a specimen, else he would not have made such a conclusion.

15. *Nassa (Alectryon) papillosa* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 737, N° 393.
RUMPH. Amb. Rariteitkamer, p. 97, Pl. 29, fig. M.
KIENER. Coq. Viv. Vol. VIII, Buccinum, p. 58, Pl. 15, fig. 54.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 12.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Buccinum, p. 21, Pl. 5, fig. 6, 7.
TRYON. Man. of Conch. Vol. IV, p. 30, Pl. 9, fig. 74.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.

16. *Nassa (Alectryon)* n. sp.?

Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 1 Spec.

Probably this species has not been described, but as the specimen is bleached and has the peristome not yet developed, it is not safe to name it. It has some resemblance with *N. elegans* Kien., but is more elongate, the whorls are less convex and have a groove a little below the suture.

17. *Nassa (Alectryon, Aciculina?) ovoidea* n. sp. Pl. XX, fig. 1.

Stat. 306. 8° 27′ S., 122° 56′.5 E. Flores Sea. 247 M. Sandy mud. 12 Spec.

Shell small, ovately conic, with moderately long spire, whitish with a trace of a peripheral band (bleached). Whorls about 7, of which 3 form the smooth, carinated nucleus. Subsequent whorls slightly convex, separated by a conspicuous suture. Sculpture consisting of somewhat

curved ribs, about 22 in number on last whorl, these ribs are narrow, with broader interstices, especially on last whorl; they are crossed and rendered slightly granose by spiral lirae, about 16 in number on last whorl, of which the upper one, bordering the suture is stronger and separated by a groove, thus making the sutures beaded. Aperture oval, with a sinus above; peristome blunt, with a thick, flat rib externally, this rib is crossed by the spiral lirae, internally the peristome has 5 or 6 denticles, of which the basal one has the appearance of a tooth. Columellar side enameled, with a plait above and a few wrinkles and pustules below. Canal rather deep and wide, narrow at its entrance, by the basal fold of columella and tooth of peristome.

Alt. 7, lat. 4; apert. alt. (with canal) 3, lat. $1^1/_2$ Mill.

It is not without hesitation that I describe this and some of the next species as new. It resembles in many respects *N. collaticia* Melvill and *N. munda* Sturany, especially the smaller specimens of the latter, but seems to be distinguishable from those species, by having a different number of ribs, 22 against 12 or 26; in *N. munda* the whorls are strongly gradate. I have located the species it the Section *Alectryon*, of which *Aciculina* is according to COSSMANN a subsection, on account of its resemblance with *N. collaticia*.

var. *brevis* n. var.

Shell more ventricose, consequently relatively shorter.

Alt. 7, lat. 4; apert. alt. (with canal) $3^1/_2$, lat. $1^1/_2$ Mill.

By the utmost liberality of Dr. STURANY, who sent me for comparison, the whole material of *N. munda*, *sporadica*, *stiphra* and *lathraica*, I have been able to satisfy myself, that these species are different from my new ones.

18. *Nassa (Alectryon, Aciculina) macrocephala* n. sp. Pl. XX, fig. 2.

Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand very fine. 7 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 2 Spec.

Shell very small, ovately conic, with moderately long spire, greyish-white (bleached?). Whorls 7, of which about 4 form the nucleus, which is uncommonly large, smooth and shining, with very convex whorls and a conspicuous peripheral keel. Subsequent whorls only slightly convex, separated by a conspicuous suture. Sculpture consisting of nearly straight ribs, which are rather broad, but in most cases narrower than the interstices, 14 on penultimate whorl, 14 to 17 on last whorl. They are crossed by a groove, a little below the suture, making the ribs more or less beaded above, some impressed striae and a few (about 5) basal lirae, rendering the ribs granulose. Aperture oval, with an obtuse angle above. Peristome blunt, with a thick rib externally, lirate towards the base, and 5 to 6 pustules internally, of which the basal one is toothlike. Columellar side with a conspicuous layer of enamel, a small fold above and a few pustules below, ending in a strong fold. Canal moderately wide and deep.

Alt. 5, lat. $2^3/_4$; apert. alt. (with canal) 2, lat. $1^3/_4$ Mill.

A not quite developed specimen is a little larger (length $5^1/_2$ Mill.).

This species is remarkable for its relatively very large nucleus, which at once distinguishes it from the allied species; the small number of ribs, distinguishes it moreover from the preceding species; in this latter respect it reminds *N. lathraica* Sturany, which is quite different by its smaller nucleus and has consequently a larger number of ribbed whorls, which are considerably more gradate, the general shape is more conic in *lathraica*, oval in *macrocephala*.

19. *Nassa (Alectryon, Aciculina) crebricostata* n. sp. Pl. XX, fig. 3.

Stat. 139. 0° 11′ S., 127° 25′ E. Molucca Passage. 397 M. Mud, stones and coral. 25 Spec.

Shell small, oblong-ovate, with a rather short spire, transparent-whitish. Whorls 6, of which 3 from a large nucleus, with smooth, shining, convex whorls, with a thin peripheral keel; subsequent whorls convex, separated by a deep suture. Sculpture consisting of numerous fine ribs, 30 or more on last whorl; these ribs are narrower than the interstices and are crossed by a groove below the suture, making the ribs beaded, and 11 flat lirae, which on the median part of last whorl are scarcely perceptible on the crest of the ribs, but make them granulose towards the base, 4 of them being stronger. Aperture oval, with an obtuse angle above; peristome rather thin, with a thick rib externally, and 8 denticles interiorly, of which the basal one is slightly stronger; columellar side with a thin layer of enamel, scarcely folded above, with a few pustules near the base of margin, ending in a thin fold; canal wide, not very deep.

Alt. 7, lat. $4^1/_3$; apert. alt. (with canal) 3, lat. $1^3/_4$ Mill.

This species resembles in shape in some points *N. ovoidea*, but is readily distinguished by the much larger number of finer ribs, by its larger nucleus, more convex whorls and armature of aperture; in some respects it resembles *N. sporadica* Sturany, which has however the whorls much more gradate and much less convex than my species, moreover *sporadica* is much larger, which character however may be of less importance, as but one specimen has been dredged. *N. stiphra* Sturany has also more convex whorls but less so than in *crebricostata*, is more gradate, has a smaller number of stronger ribs and much smaller nuclear whorls; the spiral sculpture is less conspicuous on median part of whorls. Though it is not a very agreable task, to describe so many allied new species, I have endeavoured in vain to combine them with each other or with *N. munda* and allies. I could make no description fit for them all, unless I would make use of a few unsignificant words. I have, though not without doubt, located them in *Alectryon*, following Melvill, who places his *N. collaticia* in that subgenus, but on account of their affinity with *N. babylonica* Watson, I added the name *Aciculina* adopted by Watson for the latter species, which group has been considered by Cossmann, to be a subgenus of what he calls the genus *Alectryon*.

20. *Nassa (Aciculina) babylonica* Watson.

Watson. Rep. Challenger. Part 42, Scaph. and Gastrop. p. 185, Pl. 11, fig. 8.

Stat. 52. 9° 3′.4 S., 119° 56′.7 E. Savu Sea. 959 M. Globigerine ooze. 9 Spec
Stat. 137. Channel between Makjan and Halmaheira. 472 M. Fine, dark muddy sand. 3 Spec.
Stat. 178. 2° 40 S., 128° 37′.5 E. Ceram Sea. 835 M. Blue mud. 2 Spec.
Stat. 300. 10° 48′.6 S., 123° 23′.1 E. Timor Sea. 918 M. Fine grey mud. 3 Spec.

The Siboga-specimens of this very curious and interesting species, exactly agree with WATSON's description and figure. His specimens came from the Philippines, from a depth of 375 fathoms.

21. *Nassa (Zeuxis) taenia* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3493.
KIENER. Coq. Viv. Vol. VIII, Buccinum, p. 59, Pl. 15, fig. 53 (*olivaceum*).
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 19 (*olivacea*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Buccinum, p. 38, Pl. 8, fig. 8, 9.
TRYON. Man. of Conch. Vol. IV, p. 30, Pl. 9, fig. 76, 77.

Stat. 86. Dongala, Palos-bay, Celebes. Reef. 1 Spec.
Stat. 213. Saleyer. Up to 36 M. Mud and mud with sand. 2 Spec.

The specimens of this rather common species are very characteristic.

22. *Nassa (Zeuxis) canaliculata* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 161.
KIENER. Coq. Viv. Vol. IV, p. 31, Pl. 9, fig. 83—85.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 18.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Buccinum, p. 32, Pl. 7, fig. 8, 9.
TRYON. Man. of Conch. Vol. IV, p. 31, Pl. 9, fig. 83—85.

Stat. 4. Djangkar (Java). 9 M. Coralsand. 1 Spec.
Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River mud, coral, coral-sand. 3 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 4 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 213. Saleyer. Up to 36 M. Mud and mud with sand. 5 Spec.
Stat. 289. 9° 0′.3 S., 126° 24′.5 E. Timor Sea. 112 M. Mud, sand and shells. 1 Spec.

The specimens vary considerably in size, colour, more or less ribbed spire and even in the distinctness of the sutural canal. The species is no doubt allied to *N. taenia* and *unicolor*, and I think has been often mixed with these species. KÜSTER is in doubt if REEVE's fig. 18 belongs to this species. I should incline to think that REEVE's fig. 17 *(unicolorata)* agrees better with this species, than with KIENER's *B. unicolorum*, at least KIENER's figure shows no trace of a canaliculate suture, as REEVE's fig. 17 does, and KIENER's description does not mention it, moreover the shell of KIENER is much more elongate. I have united those specimens which show a distinct, though not always large channel, without regard to the other, most inconstant characters, as size, colour and number of ribs, which merge insensibly into each other.

23. *Nassa (Zeuxis) unicolor* Kiener.

KIENER. Coq. Viv. Vol. VIII, Buccinum, p. 60, Pl. 19, fig. 69.
TRYON. Man. of Conch. Vol. IV, p. 31, Pl. 10, fig. 88.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 213. Saleyer. Up to 36 M. Mud and mud with sand. 1 Spec.

The specimen from Stat. 47 is adult and very well agrees with the original description and figure, the other one is young and though the suture is not canaliculate, I am not quite certain that it should not belong to the preceding or another allied species. I have not quoted REEVE's fig. 17, as in my opinion it differs too much from KIENER's figure.

24. *Nassa (Zeuxis) crenulata* Bruguière.

BRUGUIÈRE. Encycl. Meth. Pl. 394, fig. 6.
KIENER. Coq. Viv. Vol. VIII, Buccinum, p. 62, Pl. 14, fig. 49; Pl, 23, fig. 90.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 2.
TRYON. Man. of Conch. Vol. IV, p. 28, Pl. 8, fig. 56 (*hirta* pars); p. 29, Pl. 9, fig. 70 (*scalaris* pars).

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 2 Spec.
Stat. 7. Near Reef of Batjulmati (Java). 15 M. and more. Coral and stones. 3 Spec.
Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River mud, coral, coralsand. 4 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 9 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 2 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 1 Spec.
Stat. 174. Waru-bay, North coast of Ceram. 18 M. Mud. 6 Spec.
Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 1 Spec.
Stat. 205. Lohio-bay, Buton-strait. 22 M. Sandy mud. 4 Spec.
Stat. 213. Saleyer and surroundings (South-island). Reef and 36 M. Mud and mud with sand. 2 Spec.
Stat. 277. Kulewatti-bay, Dammer-island. 45 M. Sand, black and white. 1 Spec.
Stat. 279. Rumah-Kuda-bay, Roma-island. 36 M. Mud and sand. 1 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 2 Spec.
Stat. 289. 9° 0'.3 S., 126° 24'.5 E. Timor Sea 112 M. Mud, sand and shells. 1 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.
Stat. 319. 6° 16'.5 N., 114° 37' E. 82 M. Fine, yellowish-grey mud. 1 Spec.
Stat. ? 2 Spec.

This is one of the most difficult species, its great variability in size, colour and sculpture seems to have caused much controversy as to its affinities. Most authors agree in this point, but not respecting its synonymy. I have followed the views of BOOG WATSON (Challenger report) and some subsequent authors. If one compares the large forms with few ribs, with the smaller many-ribbed specimens, one should incline to admit more than one species, but intermediate specimens make it impossible to trace the limit. The allies are a. o. *N. taenia*, *canaliculata* and *siquijorensis*.

25. *Nassa (Zeuxis) siquijorensis* A. Adams var.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 97.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 53.
TRYON. Man. of Conch. Vol. IV, p. 30, Pl. 9, fig. 72, 73.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 11 Spec.

The specimens are not typical, they are considerably smaller, not exceeding 14 Mill. in length; the sculpture is slightly different from more typical specimens in my private collection,

Mr. E. A. SMITH, who assisted me with some forms of the preceding species, was however of opinion that this form should be ascribed to *N. siquijorensis*.

26. *Nassa (Zeuxis) multipunctata* n. sp. Pl. XX, fig. 4.

Stat. 60. Haingsisi, Samau-island, near Timor. 23 M. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

Shell elongately ovate, with long, but not very acuminate spire, whitish, with close, reddish-brown markings, consisting of streaks and network, leaving in many parts only white specks, which are very scarce on the back of last whorl, which is nearly totally brownish in one specimen; only near the peristome the shell is quite whitish, with one brown blotch or bandlike streak at the periphery and another at the base, behind the peristome; just below the suture, a narrow zone is alternately blotched with white and brown. Whorls about 9, of which $3^1/_2$ form a smooth, brownish nucleus, with convex whorls and a peripheral keel. Subsequent whorls sculptured with rather remote ribs, crossed by spiral striae, of which the uppermost is a slight groove, the subsutural zone beaded; this sculpture disappears on the lower whorls, which are smooth or nearly so, with only microscopic spiral striae and growth-striae; lower whorls slightly convex, with a conspicuous subtabulated suture; last whorl with 5 or 6 grooves at the base and a few very flat, broad ribs behind the peristome; aperture oval, canaliculate above, peristome not thick, with a flat, broad rib externally and 14 lirae in the interior, at some distance from the margin, the basal one is the strongest. Columellar side nearly smooth, with a thin layer of enamel, one fold above and a few shorter folds or granules below, basal fold stronger and curved. Basal canal rather broad, moderately deep.

Alt. $15^1/_2$, lat, $7^1/_2$; apert. alt. (with canal) $6^1/_4$, lat. $3^1/_2$ Mill.

This species has in markings some resemblance with *N. glans* var. *fulgurans*, but is quite different by its elongated shape and different sculpture of upper whorls. I know no species which is closely allied. In shape it resembles *N. punctata* Ads.

27. *Nassa (Zeuxis) picta* Dunker.

DUNKER. Zeitschr. für Malak. 1846, p. 172.
PHILIPPI. Abb. u. Beschr. neuer Conch. Vol. III, p. 65, Buccinum, Pl. II, fig. 6.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 9.
TRYON. Man. of Conch. Vol. IV, p. 35, Pl. 11, fig. 133.

Stat. 125. Sawan, Siau-island. Reef. 4 Spec.

TRYON unites many allied forms with this species; the majority of them may be easily recognized, so I have only quoted that figure, which is a bad copy of REEVE's figure, agreeing with that of PHILIPPI.

28. *Nassa (Zeuxis) lucida* Gould.

GOULD. Proc. Boston. Soc. Nat. Hist. Vol. III, 1849, p. 153.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 45 (*dispar*).
TRYON. Man. of Conch. Vol. IV, p. 36, Pl. 11, fig. 137 (*dispar*), fig. 138.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River mud, coral, coral-sand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 277. Kulewatti-bay, Dammer-island. Reef. 1 Spec.

This is one of TRYON's synonyms of the preceding species, however readily distinguished by its nodulous sutures, the wanting of red lines, but also differing sufficiently in shape to be kept doubtless separate.

29. *Nassa (Zeuxis) punctata* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 105.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 54.
TRYON. Man. of Conch. Vol. IV, p. 35, Pl. 11, fig. 121 (*gaudiosa* pars).

Stat. 231. Amboina. Reef. 1 Spec.

The only specimen is nearly uniformly grey, the white spots are very obscure, however the characteristic crenules of the suture are present and serve to distinguish it from allied species.

30. *Nassa (Phrontis) delicata* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 99.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 180.
TRYON. Man. of Conch. Vol. IV, p. 41, Pl. 12, fig. 177 (*tiarula* pars).

Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 2 Spec.
Stat. 12. 7° 15′ S., 115° 15′.6 E. Bali Sea. 289 M. Mud and broken shells. 1 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 78. Lumu-Lumu-shoal, Borneo-bank. 34 M. Coral and coralsand. 1 Spec.
Stat. 104. Sulu-harbour, Sulu-island. 14 M. Sand. 2 Spec.
Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 5 Spec.

This really delicate species has been united by TRYON with *N. tiarula*; I think it is sufficiently different to separate it; the specimen from Stat. 12, probably will not have lived at the exceptional depth of 289 M.; as it is an empty shell, with the fine brown markings still well preserved, it may not yet have sejourned a long time at the bottom of the sea.

31. *Nassa (Phrontis) crenolirata* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 100.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 165.
TRYON. Man. of Conch. Vol. IV, p. 40, Pl. 12, fig. 179 (*fissilabris* pars).

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 2 Spec.

TRYON has tried to suppress even this species in favour of *N. fissilabris* Ads.

32. *Nassa (Hebra) subspinosa* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 173.
KIENER. Coq. Viv. Vol. VIII, Buccinum, p. 94, Pl. 26, fig. 103.
TRYON. Man. of Conch. Vol. IV, p. 43, Pl. 13, fig. 208.

Stat. 240. Banda. Reef. 1 Spec.
Stat. 277. Kulewatti-bay, Dammer-island. Reef. 13 Spec.

33. *Nassa (Hebra) horrida* Dunker.

DUNKER. Zeitschr. für Mal. 1846, p. 171 (*scabrum* non ANTON).
—— Zeitschr. für Mal. 1847, p. 59.
PHILIPPI. Abb. u. Beschr. neuer Conch. III, p. 66, Buccinum, Pl. 2, fig. 8.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 69.
TRYON. Man. of Conch. Vol. IV, p. 44, Pl. 14, fig. 216 (*muricata* pars).

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.

34. *Nassa (Hebra) echinata* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 101.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 131.
SMITH. Proc. Zool. Soc. Lond. 1878, p. 810, Pl. 50, fig. 9.
TRYON. Man. of Conch. Vol. IV, p. 44, Pl. 14, fig. 223.

Stat. 184. Kampong Kelang, South coast of Manipa-island. 36 M. Coral, sand. 4 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 2 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 3 Spec.

One of the specimens from Banda and one from the Saleh-bay are nearly as elongated as REEVE's figure, the other ones are shorter, better agreeing with the quoted figure of SMITH and even shorter, one from the latter locality is darker (brownish); all display the brown bands. The beautiful operculum is thin, yellowish with a blackish spot on the hinder part and a black transverse line, the edges are dentate.

35. *Nassa (Hebra?) diluta* Smith.

E. A. SMITH. Ann. Mag. Nat. Hist. Ser. 7, Vol. IV, 1899, p. 243.
ALCOCK. Ill. Zool. Investigator, Moll. Pl. XI, fig. 3.

Stat. 271. 5° 46'.7 S., 134° 0' E. Arafura Sea 1788 M. Bluish green mud. 1 Spec.

As the only specimen, which agrees in every respect with the description and figure is not adult, and I consequently could not make out, to which section of the genus it belongs, moreover the figured specimen seemed to have a thin peristome, I asked Mr. SMITH about this question, who writes: "Not having an adult specimen, it is difficult to decide the section to which *N. diluta* belongs. It seems rather allied to *Hebra*". The operculum is thin, corneous, with plain edges.

36. *Nassa (Hima) tringa* Souverbie.

SOUVERBIE. Journ. de Conch. 1864, p. 272, Pl. 10, fig. 7.
TRYON. Man. of Conch. Vol. IV, p. 47, Pl. 15, fig. 251.

Stat. 34. Labuan Pandan, Lombok. Coralreef. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells. 9 Spec.
Stat. 133. Lirung, Salibabu-island. Reef. 1 Spec.
Stat. 163. Seget, West entrance Selee-(Galewo)-strait. 29 M. Sand and stones, mixed with mud. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 2 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. Lithothamnion. 4 Spec.
Stat. 310. 8°30' S., 119°7'.5 E. Flores Sea. 73 M. Sand with few pieces of dead coral. 1 Spec.

A variable species, agreeing however in this respect, with what SOUVERBIE (l. c.) has reported; the Siboga-specimens are nearly plain-coloured or with conspicuous bands or only with brown lines, their size is rather variable as well as the number of parietal and collumellar wrinkles.

37. *Nassa (Hima) paupera* Gould.

GOULD. Proc. Bost. Soc. Nat. Hist. Vol. III, 1850, p. 155.
TRYON. Man. of Conch. Vol. IV, p. 47, Pl. 15, fig. 246—250.

Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.

This specimen is rather small, being only $7^1/_2$ Mill. in length; it is somewhat bleached.

38. *Nassa (Hima) sinusigera* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 100.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 113.
TRYON. Man. of Conch. Vol. IV, p. 51, Pl. 15, fig. 274.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 4 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 65 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 44 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 3 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 40 Spec.
Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 9 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. 2 Spec.
Stat. 174. Waru-bay, North coast of Ceram. 18 M. Mud. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. 26 M. 6 Spec.
Stat. 213. Saleyer. Up to 36 M. Mud and mud with sand. 1 Spec.
Stat. 260. Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 5 Spec.
Stat. 261. Elat, West coast of Great Kei-island. 27 M. Mud. 44 Spec.
Stat. 311. Sapeh-bay, East coast of Sumbawa. Up to 36 M. Mud and sand. 9 Spec.
Stat. ? 33 Spec.

Varying in nearly every respect, in size, shape, (more or less elongate), number and development of ribs, some specimens being nearly smooth on last whorls, others more or less

closely ribbed, in colour, distinctness and breadth of the band. However it is impossible to me to separate them. TRYON thinks that *N. fraudulenta* Marrat (On some proposed new forms in the genus Nassa, p. 8, pl. 1 fig. 24) may be identical, but MARRAT's words: „Callo columellaris albo *maximo*" and his opinion that this species is closely allied to *N. globosa*, are not in favour of that view, though the back view of the shell, the only figure given by MARRAT, has much resemblance. *N. cribraria* Marrat (l. c. p. 12, Pl. 1, fig. 20) has another aperture, without the characteristic basal sinus of the peristome.

39. *Nassa (Niotha) granosocostata* n. sp. Pl. XX, fig. 5.

Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral and coralsand. 1 Spec.

Shell ovately conical, ventricose, with rather short, sharp spire, cream coloured, faintly two-banded with reddish-brown, more conspicuously brown-coloured on the back of last whorl. Whorls about $8^1/_2$, of which 3 form a small nucleus, subsequent whorls moderately convex, separated by a deep suture and nearly tabulated, their sculpture consists of ribs running from one suture to the other, 22 on last whorl, these ribs are crossed by thinner spiral lirae, which in passing the ribs, make them subgranose; upper row of granules very conspicuous, bordering the suture and separated from the rest of whorl by a groove; last whorl very convex above, its basal part strongly granose. Aperture oval, its upper corner with a rather broad canal, formed by the upper part of peristome and the fold on body-whorl. Peristome rather thin, externally with a broad, flat rib, internally with 12 lirae, of which the upper and basal ones are the strongest and border the canals. Columellar margin with a conspicuous but not widely spreading callosity, which is porcellaneous, white, granose on the body-whorl, by the granules of the ribs, with irregular plicae on the lower part, ending in a strong, curved fold; basal canal rather wide, deep and slightly upturned. Interior of aperture white, with a slight brownish hue in its depth.

Alt. 16, lat. $8^3/_4$, apert. alt. (with canal) 8, lat. $4^1/_2$ Mill.

This species belongs to the alliance of *N. livescens* Phil., but may be distinguished by its sharper, granose sculpture, it is considerably narrower in proportion to its length than that species, the enamel on the body-whorl is less extended, its upper margin being horizontal in *N. livescens* and the allied *N. Kieneri*, the basal fold of the columella is more oblique and straighter in the new form than in *livescens*. Mr. MELVILL who had the kindness to compare it in the British Museum, writes about it: "I also compared it with a variety (so labelled) of *livescens* Phil. this being smaller, with shorter spire than the type. Your shell is much like a miniature of this and the mouth is likewise very similar. It will perhaps however bear differentiation". After all it may prove to be only a variety of *N. livescens*, but as long as no more materials are known, I prefer on account of the differences mentioned above, to keep it separate.

40. *Nassa (Niotha) pusio* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 100.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 172*a*.
TRYON. Man. of Conch. Vol. IV, p. 54, Pl. 16, fig. 305.

Stat. 49ª. Sapeh-strait. 69 M. Coral and shells. 1 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 2 Spec.
Stat. 95. 5°43′.5 N., 119°40′ E. Sulu-archipelago. 522 M. Stony bottom. 1 Spec.

The specimens are not quite typical, they are nearly colourless, which may scarcely be ascribed in every specimen, to their being bleached, the spiral striae are very faint, except near the base and just below the suture. The young specimen from Stat. 95 is a dead shell and will not have lived at this exceptional depth; it has the spiral striae more conspicuous.

41. *Nassa (Niotha) agapeta* Watson.

Boog Watson. Voy. Challenger. Gastrop. Report p. 174, Pl. 11, fig. 6.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 3 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells. 2 Spec.
Stat. 60. Haingsisi, Samau-island, Timor. Reef. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. 22 M. Mud. 3 Spec.

This species varies in size, the specimens from Stat. 51 being only about 5 Mill. in length and relatively narrow, the largest from Stat. 193, 7 Mill. in length; in the bands, the upper one disappearing in a few instances, in number of ribs, which in one of the specimens from Stat. 51 are much less numerous on upper whorls, still scarce on the specimens from Stat. 47 and abnormally thick, varix-like and few in number on that from Stat. 60, which I consider to be a monstrosity; as the sculpture of last whorl agrees fairly well with more typical specimens, I think it not advisable to give it even a varietal name, as there is but one such a specimen.

42. *Nassa (Niotha) albescens* Dunker.

Dunker. Zeitschr. f. Mal. 1846, p. 170.
Philippi. Abb. u. Beschr. neuer Conch. Vol. III, p. 68, Buccinum, Pl. 2, fig. 15.
Reeve. Conch. Ic. Vol. VIII, Nassa, fig. 100.
Tryon. Man. of Conch. Vol. IV, p. 51, Pl. 16, fig. 279.

Stat. 89. Pulu Kaniungan ketjil. Reef. 2 Spec.
Stat. 125. Sawan, Siau-island. Reef. 1 Spec.
Stat. 127. Taruna-bay, Great Sangir-island. Reef. 1 Spec.
Stat. 144. Salomakiëe-(Damar)-island. Reef. 1 Spec.
Stat. 174. Waru-bay, North coast of Ceram. Reef. 1 Spec.
Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 1 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 2 Spec.

The specimens belong to the dark-topped type, as first figured by Philippi (l. c.)

43. *Nassa (Niotha) splendidula* Dunker.

Dunker. Zeitschr. f. Mal. 1846, p. 170.
Philippi. Abb. u. Beschr. neuer Conch. Vol. III, p. 67, Buccinum, Pl. 2, fig. 16.
Tryon. Man. of Conch. Vol. IV, p. 52, Pl. 16, fig. 284.

Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 2 Spec.
Stat. 104. Sulu-harbour, Sulu-island. 14 M. Sand. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 5 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 2 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. Reef. 1 Spec.

TRYON has pointed out the differences in sculpture and colour between this and the preceding species, the brown spots below the suture are often very faint and nearly wanting on the specimens from Stat. 258. At Stat. 260, near Nuhu Jaan, has been found a small, dead shell, at a depth of 90 M., which may be a somewhat scalariform specimen of this species, with the aperture not developed; as I am however very uncertain, I have not mentioned it amongst the list of localities.

44. *Nassa (Niotha) densigranata* Reeve.

REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 181.
TRYON. Man. of Conch. Vol. IV, p. 52, Pl. 16, fig. 287 (*splendidula* pars).

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.
Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 2 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 86. Dongala, Palos-bay, Celebes. 36 M. Fine grey mud, river mud. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.
Stat. 181. Amboina. 54 M. Mud, sand and coral. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 4 Spec.
Stat. ? 4 Spec.

Only a few specimens perfectly agree with the figure of REEVE (l. c.) the majority is considerably larger and differs more or less in sculpture and colour. Mr. SMITH whom I asked his opinion, declared these doubtful specimens to be colourless and partly dead specimens of *N. densigranata*. Mr. MELVILL wrote about other very aberrant specimens, that they resembled in some degree his *N. sturtiana* (Proc. Zool. Soc. Lond. 1901, p. 413, Pl. 23, fig. 14) but that this species has the ribs quite smooth. Under these circumstances I have followed Mr. SMITH's advice.

45. *Nassa (Niotha) margaritifera* Dunker.

DUNKER. Zeitschr. f. Mal. 1847, p. 60.
PHILIPPI. Abb. u. Beschr. neuer Conch. Vol. III, p. 47, Buccinum, Pl. 1, fig. 12.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 51 (*costellifera*).
TRYON. Man. of Conch. Vol. IV, p. 53, Pl. 16, fig. 298, 300 (*crenulata* var. *margaritifera*).

Stat. 16. Bay of Kankamaräan, S. coast of Kangeang. Shore. 1 Spec.

REEVE's fig. 59 *(margaritifera)* seems to be scarcely the same as DUNKER's species. The figure of PILIPPI is more reddish-brown banded than any specimen I have seen (may it be bleached?) but the description agrees in every respect, only I find the number of granules on the columellar side more variable.

46. *Nassa (Niotha) angriasensis* Melvill and Standen.

MELVILL and STANDEN. Proc. Zool. Soc. Lond. 1901, p. 412, Pl. 33, fig. 13.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 277. Kulewatti-bay, Dammer-island. 45 M. Sand, white and black mixed. 1 Spec.

I at first thought the species might be new, but Mr. MELVILL had the kindness to point out the identity with his *N. angriasensis*, adding that his figure was rather faulty, the description agrees rather well, but the Siboga-specimens have additional brown markings between the bands of last whorl, not mentioned in the original description.

47. *Nassa (Niotha) gemmulata* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 169.
KIENER. Coq. Viv. Vol. VIII, Buccinum, p. 85, Pl. 22, fig. 84.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 29.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Buccinum, p. 10, Pl. 3, fig. 10, 11.
TRYON. Man. of Conch. Vol. IV, p. 55, Pl. 17, fig. 312, 313.

Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 1 Spec.

The specimen is larger than LAMARCK's type, measuring an inch in length instead of 10 lines.

var. *variegata* A. Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 97.
REEVE. Conch. Ic. Vol. VIII, Nassa, fig. 70.
TRYON. Man. of Conch. Vol. IV, p. 55, Pl. 17, fig. 314 (*gemmulifera* pars).

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 2 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 3 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 4 Spec.

Differing only from the typical *gemmulata* in size, though it is often more coloured, I have seen specimens which agree in colour with the type, which is likewise not always constant in this respect.

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## Fam. Columbellidae.

### **Columbella** Lamarck.

1. *Columbella pardalina* Lamarck.

Lamarck. An. s. vert. Ed. II, Vol. X, p. 270.
Kiener. Coq. Viv. Vol. VIII, Columbella, p. 36, Pl. 4, fig. 3.
Sowerby. Thes. Conchyl. Vol. I, p. 124, Pl. 38, fig. 90—92.
Reeve. Conch. Ic. Vol. XI, Columbella, fig. 75.
Tryon. Man. of Conch. Vol. V, p. 108, Pl. 44, fig. 59, 60.
Kobelt. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 45, Pl. 6, fig. 8—11.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 2 Spec.
Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Reef. 8 Spec.
Stat. 152. Wunoh-bay, N.W. coast of Waigeu-island. 32 M. Lithothamnion-bottom. 1 Spec.
Stat. 213. South-island near Saleyer. Reef. 4 Spec.
Stat. 215. Near Kabia-island. Reef. 1 Spec.
Stat. 296. Noimini, South coast of Timor. Reef. 3 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.

The specimens are very different in colour-pattern and size. In how far the different forms united by Tryon, really belong to this species, can only be made out by comparing the types with very extensive materials, so I have quoted only the typical figures. This is also the case with many of the other species in this genus.

2. *Columbella fulgurans* Lamarck.

Lamarck. An. s. vert. Ed. II, Vol. X, p. 272.
Kiener. Coq. Viv. Vol. VIII, Columbella, p. 35, Pl. 7, fig. 1, 1*a*.
Sowerby. Thes. Conchyl. Vol. I, p. 125, Pl. 38, fig. 95, 96.
Reeve. Conch. Ic. Vol. XI, Columbella, fig. 50*a*.
Tryon. Man. of Conch. Vol. V, p. 109, Pl, 45, fig. 76.
Kobelt. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 22, Pl. 3, fig. 6—8.

Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 6 Spec.
Stat. 277. Kulewatti-bay, Dammer-island. Reef. 9 Spec.

var. *punctata* Lamarck.

Lamarck. Ann. s. vert. Ed. II, Vol. X, p. 273.
Kiener. Coq. Viv. Vol. VIII, Columbella, p. 36, Pl. 7, fig. 1*c*, 1*d*, 1*e*.
Sowerby. Thes. Conchyl. Vol. I, p. 125, Pl. 38, fig. 94.
Reeve. Conch. Ic. Vol. XI, Columbella, fig. 50*b*, *c*.
Tryon. Man. of Conch. Vol. V, p. 102, Pl. 45, fig. 77.
Kobelt. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 22, Pl. 3, fig. 9.

Stat. 7. Batjulmati (Java). Reef. 13 Spec.
Stat. 34. Labuan Pandan, Lombok. 18 M. Coralreef. 3 Spec.
Stat. 51. Madura-bay. Reef. 1 Spec.

Stat. 61. Lamakera, Solor-island. Reef. 1 Spec.
Stat. 115. East-side of Pajunga-island. Kwandang-bay. Reef. 1 Spec.
Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. Reef. 3 Spec.
Stat. 215. North-point of Kabia-island. Reef. 1 Spec.
Stat. 240. Banda. Reef. 4 Spec.

Though the Siboga-specimens are mainly easily separated from the type, I have not hesitated to follow the view of nearly all authors since LAMARCK, in uniting the two Lamarckian species, even the Siboga materials contain a few intermediate specimens, but my own store shows every grade of passage between the striped and punctate shells. It is rare to find a case in which authors so uninamously agree.

3. *Columbella turturina* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 273.
KIENER. Coq. Viv. Vol. III, p. 16, Pl. 11, fig. 3.
SOWERBY. Thes. Conchyl. Vol. I, p. 116, Pl. 37, fig. 38—40.
REEVE. Conch. Ic. Vol. XI, Columbella, fig. 83.
TRYON. Man. of Conch. Vol. V, p. 109, Pl. 45, fig. 80, 81.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 26, Pl. 3, fig. 21—23.

Stat. 66. Bank between islands of Bahuluwang and Tambolungan, South of Saleyer. 8—10 M. Dead coral, Halimeda, Lithothamnion. 2 Spec.
Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Reef. 2 Spec.
Stat. 91. Muaras-reef, inner side, East coast of Borneo. Up to 54 M. Hard coralsand. 1 Spec.

In one specimen from Stat. 66 the shell is encircled by redbrown lines, especially conspicuous between the basal grooves. I find no corresponding figure amongst those quoted above. In shape it is typical.

4. *Columbella versicolor* Sowerby.

SOWERBY. Proc. Zool. Soc. Lond. 1832, p. 119.
KIENER. Coq. Viv. Vol. VIII, Columbella, p. 50, Pl. 6, fig. 3 (*scripta*); p. 49, Pl. 9, fig. 4 (*araneosa*); p. 51, Pl. 13, fig. 1 (*rasiola*).
SOWERBY. Thes. Conchyl. Vol. I, p. 117, Pl. 37, fig. 41—46 (*versicolor*); p. 118, Pl. 37, fig. 53, 54 (*bidentata*).
REEVE. Conch. Ic. Vol. XI, Columbella, fig. 51 (*versicolor*); fig. 205 (*bidentata*).
TRYON. Man. of Conch. Vol. V, p. 110, Pl. 45, fig. 84—94.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 23, Pl. 3, fig. 10—20.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 2 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 71. Pulu Barang, near Makassar. Shore. 1 Spec.
Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Reef. 5 Spec.
Stat. 125. Sawan, Siau-island. 27 M. Stone and some Lithothamnion. 1 Spec.
Stat. 129. Near Kawio- and Kamboling-islands, Karkaralong-group. Reef. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 4 Spec.
Stat. 206. Buton-strait. Amongst floating Algae. 1 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.
Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 2 Spec.
Stat. 296. Noimini-bay, South coast of Timor. Reef. 2 Spec.

The specimens, as may be expected, vary much in size, shape and above all in coulour, the specimen from Stat. 53 is very young and belongs to *C. coronata* Duclos non Sow., which according to many authors is merely a variety; with a view on my private materials, I think this is right.

5. *Columbella varians* Sowerby.

SOWERBY. Proc. Zool. Soc. Lond. 1832, p. 118.
—— Thes. Conchyl. Vol. I, p. 117, Pl. 37, fig. 47—50.
REEVE. Conch. Ic. Vol. XI, Columbella, fig. 91.
TRYON. Man. of Conch. Vol. V, p. 110, Pl. 45, fig. 97—99.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 65, Pl. 8, fig. 13—18; Pl. 9, fig. 1—4.

Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Reef. 1 Spec.
Stat. 152. Wunoh-bay, N.-E. coast of Waigeu-island. Reef. 1 Spec.

6. *Columbella amirantium* Smith.

SMITH. Rep. Zool. Coll. "Alert", p. 494, Pl. 44, fig. K.

Stat. 240. Banda. 9—45 M. Black sand, coral and Lithothamnion. 1 Spec.

I owe the identification of this specimen to Mr. MELVILL.

7. *Columbella (Mitrella) ligula* Duclos.

DUCLOS. Chenu Illustr. Conch. Pl. 11, fig. 11—16.
KIENER. Coq. Viv. Vol. VIII, Columbella, p. 25, Pl. 13, fig. 2.
SOWERBY. Thes. Conchyl. Vol. I, p. 123, Pl. 38, fig. 83—85.
REEVE. Conch. Ic. Vol. XI, Columbella, fig. 96.
TRYON. Man. of Conch. Vol. V, p. 119, Pl. 47, fig. 55.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 78, Pl. 11, fig. 1—5.

Stat. 144. North of Salomakieë-(Damar)-island. Reef. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral and Lithothamnion. 6 Spec.

Some of the specimens from Banda, belong to the variety called *v. nivalis* by HERVIER (Journ. de Conch. 1899, p. 326), two of these especially correspond to KIENER's figure quoted above.

8. *Columbella (Mitrella) albina* Kiener.

KIENER. Coq. Viv. Vol. VIII, Columbella, p. 32, Pl. 13, fig. 4.
SOWERBY. Thes. Conchyl. Vol. I, p. 123, Pl. 38, fig. 81, 82.
REEVE. Conch. Ic. Vol. XI, Columbella, fig. 93.
TRYON. Man. of Conch. Vol. V, p. 121, Pl. 48, fig. 70, 71.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 80, Pl. 11, fig. 6, 7.

Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Reef. 1 Spec.
Stat. 282. Between Nusa Besi and N.E.-point of Timor. 27—54 M. Sand, coral and Lithothamnion. 1 Spec.

The specimen from Stat. 282 is very small, having only a length of $8^1/_2$ Mill. and may be indicated as forma *minor*, both specimens belong to the form with nodules at the back of

last whorl, mentioned by some of the authors quoted above. HERVIER (Journ. de Conch. 1899, p. 326) considers this to be one of the leading characters for distinguishing this species from the preceding one, though KIENER makes no mention of them and HERVIER (l. c. p. 320) says to have received specimens without nodules. KOBELT (l. c.) inclines to the opinion that both species ought to be united.

9. *Columbella (Mitrella) micans* (Pease) Tryon.

TRYON. Man. of Conch. Vol. V, p. 124, Pl. 48, fig. 85.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 207, Pl. 28, fig. 16.

Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 282. Between Nusa Besi and N.E-point of Timor. 27—54 M. Sand, coral and Lithothamnion. 2 Spec.

The specimen from Stat. 50 is very young, one from Stat. 282 very fine with a brown epidermis. TRYON nor KOBELT quote a book where PEASE should have published his description, if it be a MSS. name, TRYON should be quoted as author, as PACE (Proc. Mal. Soc. Lond. Vol. V, p. 106) has done. The original specimens were from the Paumatos-isles; the species has also been recorded from the Feejee-isles.

10. *Columbella (Mitrella) marquesa* Gaskoin var.

GASKOIN. Proc. Zool. Soc. Lond. 1851, p. 8.
REEVE. Conch. Ic. Vol. XI, fig. 217.
TRYON. Man. of Conch. Vol. V, p. 136, Pl. 50, fig. 44, 45.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 129, Pl. 19, fig. 1, 2.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 60. Haingsisi, Samau-island, Timor. Reef. 1 Spec.

The specimen from Stat. 60 is marbled, that from Stat. 53 white, both with redbrown spiral lines. Though the riblets of the upper whorls are wanting, they sufficiently agree in other respects with the descriptions and figures. VON MARTENS (Moll. Mauritius, p. 228) emits the opinion that this species should be identical with KIENER's *Pleurotoma nitida* and locates it in *Daphnella*. I have followed the opinion of the majority of authors in placing it in *Columbella*, the name *nitida*, if belonging to this species, can have no priority, on account of *Col. nitida* Lam. from the West-Indies.

11. *Columbella (Mitrella) circumstriata* n. sp. Pl. XX, fig. 6.

Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coralbottom. 7 Spec.
Stat. 139. 0° 11′ S., 127° 25′ E. Near Batjan. 397 M. Mud, stones and coral. 1 Spec.

Shell oblong-ovate, with moderately acuminate spire, yellowish-white, with a narrow yellowish-brown often interrupted subsutural band and flammules of the same colour on the postnuclear whorls, extending more or less down on the shell, in one instance nearly till the aperture, forming on last whorl a peripheral zone, moreover there are a few spots of the same colour near the base. Whorls 8, of which about 3 form a smooth nucleus; postnuclear whorls

slightly convex, separated by a conspicuous suture, which is slightly marginated. Sculpture consisting of impressed spiral striae, more conspicuous below, especially on the canal. Aperture oblong-ovate, peristome rather blunt, with a shallow sinus above, with a broad, flat varix externally and 5 or 6 short folds internally, columellar side with a conspicuous layer of enamel and 4 pustules on the lower half; canal rather wide and deep.

Alt. 11, lat. 5; apert. alt. 5, lat. 2 Mill.

Mr. MELVILL who had the kindness to look at this species, says that except in colour it is alike in form to *C. austrina* Gask. That species has been described as smooth, with a broad flesh-coloured band; even in the worn specimens the spiral striae are easily to be seen and none of the specimens has traces of an uninterrupted band, so I must consider it to be distinct. The sinus or notch of the peristome is of the same character as in *C. marquesa* Gask.

12. *Columbella (Mitrella) elongata* n. sp. Pl. XX, fig. 7.

Stat. 162. Between Loslos and Broken-islands, West coast of Salawatti. 18 M. Coarse and fine sand with clay and shells. 1 Spec.

Shell subulate with long, acute spire, whitish, with a yellowish epidermis. Whorls 9, of which scarcely 2 form a convex nucleus; subsequent whorls flat, with a linear suture, last whorl subangular at the periphery, contracted below and so forming a short canal, slightly directed to the left. Sculpture consisting of undulated growth-striae and a few (about 13) spiral grooves at the base. Aperture elongate, angular above, peristome thin, simple, with a large sinus above, columellar margin smooth, with a thin layer of enamel. Canal rather narrow, deep.

Alt. $10^1/_2$, lat. $3^1/_2$; apert. alt. 4, lat. $1^1/_2$ Mill.

This species is of a very simple character and has much puzzled me; indeed I was in doubt if it ought not to be placed amongst the *Pleurotomidae*, on account of the large sinus and thin peristome; unfortunately the soft parts are wanting or at least not visible in the aperture, and as there was but one specimen, I could not destroy it. If the canal were straight, it could be located in the Section *Atilia*.

13. *Columbella (Mitrella) simplex* n. sp. Pl. XX, fig. 8.

Stat. 45. 7° 24′ S., 118° 15′.2 E. Flores Sea. 794 M. Fine grey mud. 2 Spec.
Stat. 88. 0° 34′.6 N., 119° 8′.5 E. Makassar-strait. 1301 M. Fine grey mud. 2 Spec.
Stat. 178. 2° 40′ S., 128° 37′.5 E. Ceram Sea. 835 M. Blue mud. 1 Spec.

Shell oblong-ovate with high but rather blunt spire, transparent, corneous, with irregular, opaque, white lines or flames, which scarcely bear the character of colour markings. Whorls 7, of which about 2 form a nearly bulbous nucleus. Subsequent whorls slightly convex, separated by a conspicuous but shallow suture, which, by the transparency of the shell seems to be marginated, last whorl rounded, slightly contracted below. Sculpture consisting of crowded, indistinct ribs on about 2 upper postnuclear whorls, remaining ones smooth, except for very fine growth-striae and occasionally a few spiral striae near the base (only conspicuous in one specimen, scarcely visible in another, both from Stat. 45, entirely wanting in the specimen from Stat. 88).

Aperture oblong-ovate, angular above, peristome moderately thin, sinuous above, without varix or internal lirae, columellar margin smooth, enamelled.

Alt. 13, lat. $5^1/_4$, apert. alt. 6, lat. 2 Mill.

The specimen from Stat. 178 is very young, the largest one, which has served for description, has the basal striae rather well developed and is from Stat. 45. I know no species which is nearly allied, it resembles *C. albuginosa* Reeve in shape, not in colour and differs by the ribs; as it is evidently a deepwater-species, these differences may be sufficient to keep them doubtless separate.

14. *Columbella (Atilia) conspersa* Gaskoin.

GASKOIN. Proc. Zool. Soc. Lond. 1851, p. 11.
REEVE. Conch. Ic. Vol. XI, Columbella, fig. 99.
TRYON. Man. of Conch. Vol. V, p. 145, Pl. 52, fig. 77, 80, 81.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 95, Pl. 14, fig. 1, 2, 5, 7.

Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells. 4 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 306. 8° 27′ S., 122° 54′.5 E. Savu Sea. 247 M. Sandy mud. 2 Spec.

The specimens recorded above are more or less typical in shape, those from Stat. 306 are dead shells and probably have not lived at this considerable depth; they agree in most respects with TRYON's fig. 80, specimens from Stat. 51, if not bleached, are richly coloured, those from Stat. 47 and 240 are nearly white, with faint subsutural and peripheral streaks. They all agree in being smooth.

var. *brevis* n. var. Pl. XX, fig. 9.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells. 1 Spec.
Stat. 260. Near North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 4 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 1 Spec.
Stat. 286. 8° 50′.2 S., 127° 2′.2 E. Timor Sea. 883 M. Mud. 1 Spec.

Shell smaller than the type, sometimes more ventricose, upper postnuclear whorls costate, the ribs extending more or less over the subsequent whorls.

Alt. from $5^1/_2$ to $9^1/_2$ Mill.

Under this name I unite some small specimens, which agree in possessing rather convex ribs on a few of the postnuclear whorls (specimens from Stat. 47, 50, 51, 285, 286, the latter a dead shell) or extending over larger part of whorls (from Stat. 260) which are also very ventricose and come nearest in length to typical specimens.

var. *nodosa* n. var. Pl. XX, fig. 10.

Stat. 144. North of Salomakiëe-(Damar-)island. 45 M. Coral bottom and Lithothamnion. 1 Spec.

Allied to the preceding variety by its ribs of the upper postnuclear whorls, but distinguished by its subconcave upper part of back of last whorl, which bears 4 rather broad, white nodules below the suture, partly descending as blunt ribs, ending in a partly developed keel on that back.

Alt. 11 Mill.

Though too nearly allied to make a new species of this only specimen, I think it differs sufficiently to deserve a varietal name.

var. *puella* Reeve.

REEVE. Conch. Ic. Vol. XI, Columbella, fig. 65.
TRYON. Man. of Conch. Vol. V, p. 145, Pl. 52, fig. 79.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 95.

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 2 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 4 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 9 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud sand with mud, coral. 3 Spec.
Stat. 77. Borneo-bank. 59 M. Fine grey coralsand. 1 Spec.
Stat. 142. Laiwui, coast of Obi Major. 23 M. Mud. 1 Spec.
Stat. 205. Lohio-bay, Buton-strait. 22 M. Sandy mud. 14 Spec.
Stat. 261. Elat, West coast of Great Kei-island. 27 M. Mud. 2 Spec.
Stat. 311. Sapeh-bay, East coast of Sumbawa. Up to 36 M. Mud and sand. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 15 Spec.

I have kept separate as var. *puella* the shells which are strongly ribbed, with 2 brown bands and think they deserve this rank, as these characters suffice for the Siboga-materials to distinguish them; if it were not that many notorious authors assert the contrary, I should incline to give them specific rank; *C. iodostoma* Gaskoin (REEVE l. c. fig. 218) is no doubt very nearly allied.

15. *Columbella (Atilia) undulata* n. sp. Pl. XX, fig. 11.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coralbottom. 4 Spec.

Shell fusiform, with rather long, acuminate spire, subtransparent, yellowish-white; whorls $8^1/_2$, of which about 2 form a smooth nucleus. About 2 postnuclear whorls with straight ribs, lower on smooth, last whorl subangulate, with short, subsutural plicae, more conspicuous on the back; these plicae are crossed by a few subsutural, spiral striae. The whorls are but slightly convex, the spire is attenuate above, suture conspicuous. Aperture oblong, obtusely angular above, ending below in a rather long and wide canal, which is spirally grooved externally; peristome simple, with a broad, flat varix externally, smooth internally, columellar margin enamelled, smooth.

Alt. $13^1/_2$, lat. $4^1/_4$; apert. alt. (with canal) 5, lat. $1^3/_5$ Mill.

This species is still allied to the preceding one, but may be distinguished by the spiral

striae, which are not mentioned in any of the quoted descriptions of *C. conspersa*, and of which I find no trace in the numerous specimens recorded above. Moreover the aperture, though apparently well developed, is quite destitute of teeth or folds. I cannot account for the considerable difference of depth, at which the specimens have been dredged, as one specimen of each locality is in fresh condition, though not containing the soft parts.

16. *Columbella (Atilia) Cumingi* Reeve.

REEVE. Conch. Ic. Vol. XI, Columbella, fig. 156.
TRYON. Man. of Conch. Vol. V, p. 151, Pl. 53, fig. 12.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 108, Pl. 16, fig. 8, 9.

Stat. 282. Between Nusa Besi and N.-E.-point of Timor. 27—54 M. Sand, coral and Lithothamnion. 6 Spec.

The specimens are very characteristic. This species has originally been recorded from the Philippines, but afterwards from more remote localities, v. MARTENS (Moll. Mauritius p. 248, Pl. 20, fig. 11) records it from Mauritius, HIRASE (Cat. of Mar. Shells of Japan p. 10) from Japan (Yakushima), from which locality I saw specimens which are smaller and banded only below the suture.

17. *Columbella (Anachis) Terpsichore* Sow. var. *lineolata* Kiener.

KIENER. Coq. Viv. Vol. VIII, Columbella, p. 57, Pl. 13, fig. 3.
REEVE. Conch. Ic. Vol. XI, Columbella, fig. 58*b*.
TRYON. Man. of Conch. Vol. V, p. 154, Pl. 54, fig. 45 (*Terpsichore* pars).

Stat. 296. Noimini-bay, South coast of Timor. Reef. 1 Spec.

The only specimen is a dead shell, with somewhat obscure markings, intermediate between the type and the variety.

18. *Columbella (Seminella) troglodytes* Souverbie.

SOUVERBIE. Journ. de Conch. 1866, p. 145, Pl. 4, fig. 4.
TRYON. Man. of Conch. Vol. V, p. 165, Pl. 56, fig. 89.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 226, Pl. 30, fig. 17, 18.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.
Stat. 47[a]. Entrance to Bay of Bima. 320 M. Fine sand. 1 Spec.

The specimen from Stat. 47[a] is a dead, bleached shell, that from Stat. 43, though apparently in fresh state, has scarcely traces of brown bands. I see only a few streaks.

19. *Columbella (Seminula) atomella* Duclos?

DUCLOS. Ill. Conch. Pl. 11, fig. 5, 6.

Stat. 90. 1° 17′.5 N., 118° 53′ E. Celebes Sea. 281 M. Coral, sand and stone. 1 Spec.
Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 1 Spec.

Both specimens are in very poor condition. Mr. MELVILL who has compared them, says they are what has been till recently considered as *C. atomella* Ducl., but that this species has been much split up, and now is considered as belonging typically to the new world only. Under these circumstances I have left them with doubt to the species of DUCLOS. They are too bad for description.

20. *Columbella (Conidea) flava* Bruguière.

BRUGUIÈRE. Dict. N$^0$ 53.
KIENER. Coq. Viv. Vol. VIII, Columbella, p. 34, Pl. 8, fig. 3 (*flavida*).
SOWERBY. Thes. Conchyl. Vol. I, Columbella, p. 118, Pl, 27, fig. 55—57 (*flavida*).
REEVE. Conch. Ic. Vol. XI, Columbella, fig. 27, 28.
TRYON. Man. of Conch. Vol. V, p. 182, Pl. 59, fig. 67—69.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 47, Pl. 6, fig. 12—14.

Stat. 81. Pulu Sebangkatan, Borneo-bank. 34 M. Coralbottom and Lithothamnion. 1 Spec.
Stat. 250. Kilsuin, West coast of Kur-island. 27 M. Coral and Lithothamnion. 1 Spec.

21. *Columbella (Conidea) discors* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3455.
KIENER. Coq. Viv. Vol. VIII, Columbella, p. 38, Pl. 8, fig. 1 (*semipunctata*).
SOWERBY. Thes. Conchyl. Vol. I, Columbella, p. 119, Pl. 37, fig. 58—61 *semipunctata*).
REEVE. Conch. Ic. Vol. XI, Columbella, fig. 208.
TRYON. Man. of Conch. Vol. V, p. 182, Pl. 59, fig. 73—76.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Columbella, p. 18, Pl. 2, fig. 17, 18.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 58. Seba, Savu. Reef. 2 Spec.

22. *Columbella (Conidea) perplexa* n. sp. Pl. XX, fig. 12.

Stat. 144. North of Salomakiëe-(Damar)-island. 45 M. Coralbottom and Lithothamnion. 3 Spec.

Shell elongately-oval, with rather acute spire, thick, black brown (if dry greyish, perhaps by the action of alcohol) with white upper whorls and base, a few white spots on the whorls about the periphery and a row of white quadrangular blotches at the upper margin of white base. Whorls about 8, of which nearly 2 smooth ones form the nucleus, subsequent whorls only very slightly convex, separated by a rather conspicuous suture, which is however not very distinct by the spiral grooves, with which the whole shell is encircled; these grooves are rather deep, the subsutural and median one of last whorl however less so, the lirae are granose on 2 or 3 postnuclear whorls, lower on they are only closely punctured, the lirae remaining smooth, but for fine growth striae. Aperture oblong, narrow; peristome thin, with only traces of a varix, internally with very faint, irregular wrinkles; columellar margin straight, smooth above, slightly plicate below by the basal grooves.

Alt. 9, lat. $3^3/_4$; apert. alt. $4^1/_2$, lat. 1 Mill.

This species was very puzzling and it is not without doubt that I have located it in

the genus *Columbella*; in colour and partly in sculpture and shape, its nearest ally is no doubt *Conus atramentosus* Reeve (Conch. Ic. Conus; Suppl. fig. 265), which has been located by PACE (Proc. Mal. Soc. Lond. Vol. V, 1902, p. 56) amongst the *Columbellidae*, and HIDALGO follows him in this opinion, in the catalogue of the mollusca of the Philippines (1904—06, p. 88), placing them in the group of *C. dormitor* Sow. From *C. atramentosus* it differs by its much narrower shape, the most elongate of my Philippine specimens having a length of $11^1/_2$, a breadth of $6^1/_4$ Mill.; in that species I find the same wrinkles in the interior of aperture, on the contrary, I see no trace of them in my West Indian specimens of *Col. dormitor*. If the columella were really plicate, one could think these species were Mitroid, the shape reminding some species of *Cylindra*, which have however in all my specimens a smooth outer margin and strongly plicate columella, the columellar part is more like that of *Dibaphus*. DALL (Rep. dredging "Blake" Vol. II, p. 165) brings *Col. dormitor* to *Mitromorpha* and indeed many of the characters enumerated there are applicable to the present species; this would locate it amongst *Pleurotomidae*, unless DALL's impression "that these shells are related to *Mitra* rather than Daphnella etc." be right. Unfortunately I cannot detect the soft parts, in order to try to settle the question, by examining the radula.

23. *Columbella (Conidea) atramentosa* Reeve.

REEVE. Conch. Ic. Vol. I, Conus, Suppl. Pl. 7, fig. 265.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 47, Pl. 14, fig. 317.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 382, Pl. 70, fig. 18, 19.
TRYON. Man. of Conch. Vol. VI, p. 85, Pl. 26, fig. 64.

Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 2 Spec.

After the description of the former species was ready for the press, I found amongst the species of *Conus* two specimens of *C. atramentosus*, which I had provisionally classified with the species of that genus, but ought consequently to be located here. One of them is broad, the other considerably narrower, its length being $8^1/_2$, its breadth $4^1/_2$ Mill. and so still sufficiently different from the former species, which is more oval. Both specimens are empty, somewhat bleached shells.

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## Fam. MURICIDAE.

### Trophon Montfort.

1. *Trophon obtuseliratus* n. sp. Pl. XXI, fig. 1; Pl. XXIV, fig. 5.

Stat. 45. 7° 24′ S., 118° 15′.2 E. Flores Sea. 794 M. Fine grey mud. 4 Spec.
Stat. 52. 9° 3′.4 S., 119° 56′.7 E. Savu Sea. 959 M. Globigerine ooze. 3 Spec.
Stat. 211. 5° 40′.7 S., 120° 45′.5 E. Banda Sea. 118 M. Coarse grey mud. 1 Spec.
Stat. 271. 5° 46′.7 S., 134° 0′ E. Arafura Sea. 1788 M. Bluish green mud. 3 Spec.
Stat. 306. 8° 27′ S., 122° 54′.5 E. Flores Sea. 247 M. Sandy mud. 1 Spec.

Shell club-shaped, with rather long spire and slender canal, white, thin, rather smooth. Whorls 6 or 7, of which about $1^1/_2$ nuclear ones, form a smooth convex-whorled top; subsequent whorls convex, separated by a conspicuous but shallow suture, angular about the middle of upper whorls, obliquely declining from suture till angle, nearly straight below the angle and somewhat narrower at the lower suture. Varices laminar, 12 on last whorl, each on the angle with a hollow spine, which is slightly directed upwards, body-whorl with about 6 obtuse spiral lirae, of which the upper one at the angle unites the spines, the other lirae make the margin of varices undulate, 2 or 3 lirae are visible on the upper whorls. Aperture ovate, with arched, thin peristome, interiorly slightly thickened, smooth, white; columellar margin with a thin, appressed layer of enamel. Canal long, directed towards the right, sculptured by the continuation of the varices.

Alt. 34, lat. 14; apert. alt. (with canal) 21, lat. 7 Mill.

This species much resembles *T. Goodrichi* Forbes, as figured by SOWERBY (Thes. Conch. Vol. IV, Trophon, Pl. I), but the spire of the new species is higher, the canal is less tortuous, above all the species has been described as smooth, I see in the figures no traces of spiral lirae or undulated varices. Many of the hollow spines are broken in the largest specimen, that has served for description and in that specimen the nuclear whorls are wanting. One of the specimens from Stat. 271, has a more oblong shape and the lirae have disappeared, as however the 2 accompanying specimens, though young, agree with those from other localities, I think these differences will be only individual, the wanting of lirae will probably be due to the state of erosion of this specimen, which contains however the soft parts.

The radula has a median tooth (M) with broad base of which the anterior margin is convex in the centre and at the sides, the posterior one has sharp angles; of the five denticles the distal ones are larger than the median cusp, with a small intermediate denticle on each side; the laterals (1) have a rather narrow base and a slender cusp, a little curved at the point. Number of rows a little more than 100.

2. *Trophon pulchellus* n. sp. Pl. XXI, fig. 2.

Stat. 159. 0° 59′.1 S., 129° 48′.8 E. Halmahera Sea. 411 M. Coarse sand. 7 Spec.

Shell fusiform, thin, white, with moderately long spire. Whorls 7, of which about $1^1/_2$ convex, smooth ones form the nucleus. Subsequent whorls convex, angled above the middle, convexly declining above the angle, contracted towards the deep suture. Sculpture consisting of fine laminate varices, 14—16 on last whorl; these are simple above the angle, where they form free laminae; at the angle they form open spines, which are directed outwards and are slightly upturned, below the angle are 2 rather obtuse lirae on the upper whorls, 5 or 6 on last whorl; in being crossed the laminae bear short spines, decreasing to scales near the base of last whorl. Canal moderately long, with nearly straight lamellae, corresponding to those of last whorl. Aperture triangularly rounded, upper margin convex, outer margin slightly thickened at some distance from the thin rim; columellar margin enamelled, appressed; canal open.

Alt. $15^1/_2$, lat. (without spines) $6^3/_4$; apert. alt. (with canal) $9^3/_4$, lat. lat. 3 Mill.

Alt. 18, lat. (without spines) 8; apert. alt. (with canal) $10^1/_4$, lat. $3^3/_4$ Mill.

The first measurements are of a perfect, the second of the largest somewhat eroded specimen. This species is nearly allied to *T. plicilaminatus* Verco (Trans. Roy. Soc. South Austral., Vol. 33, 1909; p. 335, Pl. 24, fig. 1, 2) so much, that I thought it might be identical, but Mr. SMITH who seems to have compared it with a cotype, says it is different. The Siboga-specimens are larger, have a whorl less, a specimen of about the same size as *plicilaminatus* has but 6 whorls; the new species is broader in proportion to its length, has as least one lira more and the figure of VERCO has only one row of spines, in the new species 3 of 4 lirae may be called spinous. In that species the canal is longer. *Trophon segmentatus* Verco (l. c. fig. 3) has a shorter canal, a larger number of lirae, but agrees in the more spinelike character of lower scales.

3. *Trophon luculentus* Reeve.

REEVE. Conch. Ic. Vol. III, Murex, fig. 127.
TRYON. Man. of Conch. Vol. II, p. 149, Pl. 33, fig. 355 (*fimbriatus*).

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.

The only specimen is young. Its generic position seems to be somewhat uncertain. Unfortunately it is an empty shell. I have a. o. followed PILSBRY (Cat. Mol. Japan, p. 4) who locates it in *Trophon*.

## **Murex** Linné.

1. *Murex (Tribulus) nigrispinosus* Reeve. Pl. XXIV, fig. 6.

REEVE. Conch. Ic. Vol. III, Murex, fig. 79.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Murex, p. 75, Pl. 26, fig. 5.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 4, Pl. 2, fig. 11.
TRYON. Man. of Conch. Vol. II, p. 78, Pl. 9, fig. 109 (*tribulus* var.).

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 4 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 303. Haingsisi, Samau-island. 36 M. Lithothamnion. 5 Spec.

Some of the specimens are very young and consequently more a less doubtful, however by comparison with the well developed upper whorls of adult specimens from the same localities, I think the identification is right. Cabinet specimens are often too much cleaned to allow a close comparison. As far as I can judge from one specimen of *M. tribulus*, from the Red sea, TRYON was wrong in uniting them, as the postnuclear whorls in *M. tribulus* are scaly, against rounded ribs in *M. nigrispinosus*, as has been more elaborately explained by BOOG WATSON in his Challenger Report.

The radula of a female of this species, much resembles that of *M. tribulus*, as figured by TROSCHEL, as far as concerns the shape of the basal plate of the median tooth (M), which is slightly convex in the centre of the anterior margin, with prominent angles, the central denticle as well as the lateral ones, which latter are slightly curved outwards, are longer, with an apparently longer small cusp between them, on each side of central denticle; the

laterals (1) are hooked with a broad base, but less so than in the next species, with a rather long, sharp point. Number of rows a little more than 200.

2. *Murex (Tribulus) tenuispina* Lamarck. Pl. XXIV, fig. 7.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 566.
RUMPH. Amb. Rariteitkamer, p. 86, Pl. 26, fig. 3.
KIENER. Coq. Viv. Vol. VI, p. 5, Pl. 4, fig. 1; Pl. 5. fig. 1.
REEVE. Conch. Ic. Vol. III, Murex, fig. 85.
KÜSTER/KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Murex, p. 27, Pl. 11, fig. 3; Pl. 20, fig. 3.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 2, Pl. 1, fig. 7.
TRYON. Man. of Conch. Vol. II, p. 78, Pl. 10, fig. 113.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 1 Spec.
Stat. 77. Borneo-bank. 59 M. Fine grey coralsand. 4 Spec.
Stat. 153. 0° 3'.8 N., 130° 24'.3 E. Bougainville-strait. 141 M. Fine and coarse sand with dead shells. 5 Spec.
Stat. 154. 0° 7'.2 N., 130° 25'.5 E. Bougainville-Strait. 83 M. Grey muddy sand, shells and Lithothamnion. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton, northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 7 Spec.
Stat. 213. Saleyer. 9—34 M. Coralreefs. mud and mud with sand. 1 Spec.

A rather common species of which very fine specimens have been secured.

The radula of a male specimen from Stat. 153 has about the same structure as in the preceding species. The angles of the anterior margin of median tooth (M) are not very prominent, the three principal denticles of the posterior margin are moderately long and rather broad, with intermediate smaller denticles. The laterals (1) have a moderately broad base and a curved point. Number of rows about 190. The penis of this specimen is compressed, at its base about 2 Mill., it is soon turned up at about $1^1/_2$ Mill. from that base, then it becomes broader, its greatest breadth being $2^1/_2$ Mill., the upturned part is about 9 Mill. in length, plicate, with crenulated margins, at its top it is sudden narrower and ends in a narrow, hooklike part, long about $3^1/_2$, thick about $^1/_2$ Mill.

3. *Murex (Tribulus) ternispina* Lamarck. Pl. XXIV, fig. 8.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 567.
REEVE. Conch. Ic. Vol. III, Murex, fig. 73, 76.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Murex, p. 57, Pl. 22, fig. 3, 4.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 4, Pl. 1, fig. 1.
TRYON. Man. of Conch. Vol. II, p. 78, Pl. 9, fig. 110; Pl. 11, fig. 117.

Stat. 1. Near "Zwaantjes-droogte", Madura-strait. 37 M. Grey mud with small broken shells. 4 Spec.
Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 2 Spec.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 3 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 14 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 4 Spec.
Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 2 Spec.
Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 4 Spec.
Stat. 213. Saleyer. Up to 36 M. Mud and mud with sand. 3 Spec.
Stat. 260. Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 262. 5° 53′.8 S., 132° 48′.8 E. Near Kei-islands. 560 M. Solid bluish grey mud. 1 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 5 Spec.
Stat. 318. 6° 36′.5 S., 114° 55′.5 E. Java Sea. 88 M. Fine, yellowish grey mud. 3 Spec.

As the type of this species I have united those specimens, which agree with such ones named some years ago by Mr. E. A. SMITH, though not quite agreeing in structure of the upper postnuclear whorls, a few having them more squamous than the majority, which has them more rounded. The deepwater specimen from Stat. 262 is an empty shell. If after all the specimens prove to belong to 2 species, perhaps the plates of the projected work on LAMARCK's shells, will settle the question, which of both forms is the true *ternispina*, they agree in possessing long, slender spines. E. A. SMITH (Ann. and Mag. Nat. Hist. Ser. 7, Vol. XIII, p. 461, 462) has made also observations on differences of sculpture "of the first three normal whorls".

The radula of a female specimen from Stat. 51 has a median tooth (M) with a concave anterior margin and prominent rounded angles at each side, with 3 large cusps at the posterior margin, of which the lateral cusps are a little curved outwards, and much smaller intermediate cusps. The laterals (1) have a broad base and terminate in a sharp point.

var. *rufolirata* n. var.

Differing from the type by the rufous colour of the lirae, which are stronger in accordance with the strength of the corresponding spines.

Stat. 294. 10° 12′.2 S., 124° 27′.3 E. Timor Sea. 73 M. Soft mud with very fine sand. 1 Spec.
Stat. 306. 8° 27′ S., 122° 54′.5 E. Savu Sea. 247 M. Sandy mud. 5 Spec.
Stat. 312. Saleh-bay, North coast of Sumbawa. 274 M. Fine sandy mud. 2 Spec.

The specimen from Stat. 274 is a rather young shell, a little bleached, but has the coloured lirae sufficiently conspicuous, one specimen from Stat. 306 is very fine and has been dredged with the soft parts, the other ones from the same locality are dead, worn shells, but the dark lines may still be traced, especially in one specimen. It is somewhat uncommon that the specimens from deeper water, should display the most pronounced colouring; the upper postnuclear whorls are squamous.

4. *Murex (Tribulus) Troscheli* Lischke.

LISCHKE. Japanische Meeres-Conch. Vol. I, p. 41, Pl. 1, fig. 1, 2.
TRYON. Man. of Conch. Vol. II, p. 79, Pl. 10, fig. 111 (*ternispina* pars).
SMITH. Ann. and Mag. Nat. Hist. Ser. 7, Vol. XIII, 1899, p. 462.
HIRASE. Conch. Mag. Vol. I, Pl. 1, fig. 2.

Stat. 289. 9° 0′.3 S., 126° 24′.5 E. Timor Sea. 112 M. Mud, sand and shells. 1 Spec.

It is not without hesitation that I should have identified this specimen, were it not that SMITH (l. c.) records the species from the Andaman Islands, a locality still considerably more remote from Japan. The slight differences with my only Japanese specimen may be individual, it agrees in all the chief characters. Though the canal appears to be not complete, the specimen has a total length of nearly 140 Mill., of which 70 Mill. come for the length from the apex to the base of apertural varix, this is nearly in accordance with my Japanese specimen of 160 Mill., which may consequently have been about the length of the Siboga specimen, if complete. It contains the soft parts with operculum.

5. *Murex (Tribulus) aduncospinosus* (Beck) Reeve, var.

REEVE. Conch. Ic. Vol. III, Murex, fig. 93.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 2, Pl. 1, fig. 4 (*tribulus* var.).
TRYON. Man. of Conch. Vol. II, p. 78, Pl. 10, fig. 114 (*ternispina* pars).

Stat. 318. 6° 36'.5 S., 114° 55'.5 E. Java Sea. 88 M. Fine yellowish grey mud. 6 Spec.
Stat. 320. 6° 5' S., 114° 7' E. Java Sea. 82 M. Fine, grey mud. 2 Spec.
Stat. 321. 6° 5'.5 S., 113° 30' E. Java Sea. 82 M. Fine grey mud. 1 Spec.

The 5 specimens have very narrow rufous lines on the top of the 3 principal lirae, as these lines are scarcely perceptible on dead shells, they may have escaped notice, so I judge it unnecessary to apply a varietal name.

var. *concinna* Reeve. Pl. XXIV, fig. 9.

REEVE. Conch. Ic. Vol. III, Murex, fig. 104.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Murex, p. 122, Pl. 36, fig. 11.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 2, Pl. 1, fig. 5?.
TRYON. Man. of Conch. Vol. II, p. 79, Pl. 11, fig. 122.

Stat. 77. Borneo-bank. 59 M. Fine grey coralsand. 11 Spec.

The quoted authors did not know the locality of this form. I have quoted SOWERBY's description with a note of interrogation, as he says that the rufous lines run at the top of the lirae and though the figures of the other authors seem to have the same arrangement, they do not mention the fact. The Siboga-specimens, which have been verified by Mr. E. A. SMITH on account of this circumstance, have the dark lines on the narrow intermediate lirae, between the principal ones. According to this authority it is a variety of *M. aduncospinosus*.

The radula of a female specimen of this variety has about 165 rows of teeth, which do not differ much from those of the allied species described above, the denticles of the median tooth (M) are moderately long and rather thick, resembling in this respect those of *M. tenuispina*, the laterals (1) are not much curved.

6. *Murex (Tribulus) martinianus* Reeve. Pl. XXIV, fig. 10.

REEVE. Conch. Ic. Vol. III, Murex, fig. 72.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Murex, p. 59, Pl. 9, fig. 3; Pl. 22, fig. 7, 8.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 2, Pl. 1, fig. 2 (*rarispina*).
TRYON. Man. of Conch. Vol. II, p. 78, Pl. 11, fig. 118 (*ternispina* pars).

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River-mud, coral, coral-sand. 1 Spec.
Stat. 79b. Pulu-Kabala-dua, Borneo-bank. Reef. 1 Spec.
Stat. 213. Saleyer. Up to 36 M. Mud and mud with sand. 3 Spec.

The radula of a female specimen has very broad median teeth (M) with the 3 principal cusps rather short but thick, the basal plate with the usual prominent anterior angles. As will be seen by the many radulae described in this group, no very prominent specific characters are present, for even if they prove to be constant, it is not easy to bring them under words.

7. *Murex (Tribulus) funiculatus* Reeve.

Reeve. Conch. Ic. Vol. III, Murex, fig. 74.
Sowerby. Thes. Conchyl. Vol. IV, Murex, p. 4, Pl. 1, fig. 19.
Tryon. Man. of Conch. Vol. II, p. 81, Pl. 10, fig. 112 (*recurvirostris* var.).

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells. 2 Spec.
Stat. 166. 2° 28′.5 S., 131° 3′.3 E. 118 M. Arafura Sea. Hard, coarse sand. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 2 Spec.
Stat. 260. Near Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 289. 9° 0′.3 S., 126° 24′.5 E. Timor Sea. 112 M. Mud, sand and shells. 2 Spec.

The habitat of this species was not known to Reeve and Sowerby; Tryon, who as usually has thrown together a large number of somewhat similar species, records for *M. recurvirostris* "West Indies and W. coast of Central America to Mazatlan". The specimen from Stat. 166, which is full-grown, has an unusual long canal, which has unfortunately been broken in travelling, but which, if reconstructed, has a length of about 95 Mill. This long tail had misled me in identifying it, I owe the identification to Mr. Smith; the other specimens are young. Perhaps the other known specimens had this tail broken, for in this condition it better agrees with the quoted figures. A young specimen from Stat. 162 perhaps belongs to this species.

8. *Murex (Tribulus) Macgillivrayi* Dohrn.

Dohrn. Proc. Zool. Soc. Lond. 1862, p. 203.
Sowerby. Thes. Conchyl. Vol. IV, Murex, p. 3, Pl. 17, fig. 162.
Tryon. Man. of Conch. Vol. II, p. 77, Pl. 24, fig. 208 (*scolopax* var.).
Smith. Rep. Zool. Coll. of H. M. S. "Alert", p. 44, Pl. 5, fig. C.

Stat. 274. 5° 28′.2 S., 134° 53′.9 E. Off Pulu Jedan, Aru Islands. 57 M. Sand and shells. Stones. 1 Spec.

The only specimen, containing the soft parts has the labial varix not sufficiently thickened, though the teeth of its margin are well developed. As far as I am aware, this is the first record of this Australian species for the Archipel, the nearest record seems to be Torres-strait (Boog Watson, Challenger Report, pag. 147); Sowerby quotes Mörch as the author.

9. *Murex (Tribulus) haustellum* Linné.

Linné. Syst. Nat. Ed. X, p. 746, N° 443.
Rumph. Amb. Rariteitkamer, p. 86, Pl. 26, fig. F.

KIENER. Coq. Viv. Vol. VI, Murex, p. 10, Pl. 13, fig. 1.
REEVE. Conch. Ic. Vol. III, Murex, fig. 95.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Murex, p. 35, Pl. 14, fig. 3.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 5, Pl. 2, fig. 17.
TRYON. Man. of Conch. Vol. II, p. 83, Pl. 13, fig. 137.

Stat. 79[b]. Pulu Kabala-dua, Borneo-bank. Reef. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The specimens from Stat. 164 and 299 are very young and a little doubtful, they agree pretty well with the upper whorls of that from Stat. 313, the next in size.

10. *Murex (Pteronotus) triqueter* Born.

BORN. Test. Mus. Caes. Vind. p. 291, Pl. 11, fig. 1, 2.
KIENER. Coq. Viv. Vol. VI, Murex, p. 119, Pl. 25, fig. 2 (*trigonulus*).
REEVE. Conch. Ic. Vol. III, Murex, fig. 4.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 9, Pl. 12, fig. 114.
TRYON. Man. of Conch. Vol. II, p. 85, Pl. 40, fig. 506.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.

11. *Murex (Pteronotus) Cumingi* Adams.

A. ADAMS. Proc. Zool. Soc. Lond. 1851, p. 270.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

This species of which I know no good figure, has often been considered to be a variety of the preceding one; it differs in shape, sculpture and colour, as far as I can judge from my specimens from the Philippines, Amboina and Mauritius; how this may be, the Siboga specimen, though a dead shell, belongs to the elongate form, with deeper sutures, sharper ribs between the varices and mottled brown colour-pattern on a yellowish ground, without the rosy tints of the preceding species.

12. *Murex (Chicoreus) Banksii* Sowerby.

SOWERBY. Proc. Zool. Soc. Lond. 1840, p. 140.
KIENER. Coq. Viv. Vol. VI, Murex, p. 36, Pl. 21, fig. 1.
REEVE. Conch. Ic. Vol. III, Murex, fig. 38.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Murex, p. 120, Pl. 36, fig. 6.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 17, Pl. 6, fig. 59.
TRYON. Man. of Conch. Vol. II, p. 89, Pl. 14, fig. 141.

Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.

13. *Murex (Chicoreus) adustus* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 573.
RUMPH. Amb. Rariteitkamer, p. 86, Pl. 26, fig. C.
KIENER. Coq. Viv. Vol. VI, Murex, p. 38, Pl. 33, fig. 1.
REEVE. Conch. Ic. Vol. III, Murex, fig. 29.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 16, Pl. 4, fig. 42, 43.
KÜSTER/KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Murex, p. 31, Pl. 13, fig. 5; Pl. 16, fig. 5, 6.
TRYON. Man. of Conch. Vol. II, p. 90, Pl. 75, fig. 149.

Stat. 37. Sailus ketjil, Paternoster-islands. Reef. 1 Spec.
Stat. 89. Pulu Kaniungan ketjil. Reef. 10 Spec.
Stat. 231. Amboina. Reef. 1 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.
Stat. 322. Near Tandjong Lajar, South coast of Bawean-island. 32 M. Coral. 1 Spec.

The specimens from the last three Stations are young but characteristic and different from the next species.

14. *Murex (Chicoreus) fuscus* Dunker.

Stat. 129. Near Kawio- and Kamboling-islands, Karkaralong-group. 23—31 M. 1 Spec.

This species has much puzzled me, it resembles *M. adustus*, *Banksii* and allies, but is not identical. Mr. SMITH has named it for me, but though I find the name mentioned in the monographs of SOWERBY and TRYON, I find no reference, where it has been originally described. SOWERBY declares it to be a synonym of *despectus*, which according to SMITH is the same as *M. adustus* (Ann. and Mag. Nat. Hist. Ser. IV, Vol. XV, 1875, p. 419), TRYON says it is the young state of *M. adustus*; it is different by its fronds, the plicae between the varices and the smaller aperture, which is darked coloured.

15. *Murex (Chicoreus) affinis* Reeve var.?

REEVE. Conch. Ic. Vol. III, Murex, fig. 182.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 14, Pl. 5, fig. 45, 46; Pl. 9, fig. 76.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Murex, p. 56, Pl. 21, fig. 6.
TRYON. Man. of Conch. Vol. II, p. 89, Pl. 14, fig. 138 (*maurus* pars).

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 46 M. 1 Spec.

The specimen is rather doubtful, it is small, probably not adult, darker than any of the quoted figures, has the nearest resemblance with SOWERBY's fig. 45; the fronds are decidedly shorter than in *M. Sauliae*, which is no doubt nearly allied, but more developed than in *M. maurus* Brod; TRYON unites these three forms; my materials are not numerous enough to judge if he is right.

16. *Murex (Chicoreus) axicornis* Lamarck. Pl. XXIV, fig. 11.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 574.
RUMPH. Amb. Rariteitkamer, p. 86 (footnote) Pl. 26, fig. 1.

KIENER. Coq. Viv. Vol. VI, Murex, p. 31, Pl. 42, fig. 2.
REEVE. Conch. Ic. Vol. III, Murex, Pl. 10 and 11, fig. 37.
KÜSTER/KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, p. 40, Pl. 21, fig. 3.
SOWERBY. Thes. Conchyl. Vol. IV, p. 11, Pl. 3, fig. 31.
TRYON. Man. of Conch. Vol. II, p. 92, Pl. 16, fig. 161, 162.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells. 3 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 2 Spec.
Stat. 260. Near Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 2 Spec.
Stat. 273. Pulu Jedan, East coast of Aru-islands. 13 M. Sand and shells. 2 Spec.

Very variable in colour; one of the specimens from Stat. 260, with magnificent fronds is nearly pure white, a colour-variety not yet recorded as far as I am aware; I have only seen similar ones from Amboina, those from Stat. 273 belong to var. β, figured on REEVE's Plate 10.

The basal part of the median tooth (M) of the radula has an anterior margin which is protracted in the centre and at the sides, the posterior angles are sharp and toothlike, its free posterior margin has the common 3 denticles, of which the lateral ones are the longest, the central one is short and thick, with a small cusp at each side. The laterals (1) are strongly hooked, with a long slender cusp ending in a curved point, these laterals being relatively much less bulky than in the *Tribulus*-section. The specimen was a female.

17. *Murex (Chicoreus) cervicornis* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 575.
KIENER. Coq. Viv. Vol. VI, Murex, p. 52, Pl. 20, fig. 2.
REEVE. Conch. Ic. Vol. III, Murex, fig. 66.
KOBELT. Martini-Chemn. Conch Cab. Ed. II, Vol. III, Murex, p. 87, Pl. 31, fig. 5, 6.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 11, Pl. 3, fig. 30.
TRYON. Man. of Conch. Vol. II, p. 92, Pl. 15, fig. 155.

Stat. 274. 5° 28′.2 S., 134° 53′.9 E. Near Aru Islands. 57 M. Sand and shells. Stones. 5 Spec.

18. *Murex (Chicoreus) recticornis* (v. Marts.) Kobelt and Löbbecke.

KOBELT und LÖBBECKE. Jahrb. der deutschen Mal. Gesellsch. Vol. VII, 1880, p. 81, Pl. 3, fig. 3.

Stat. 153. 0° 3′.8 N., 130° 24′.3 E. North off Waigeu-island. 141 M. Fine and coarse sand with dead shells. 1 Spec.
Stat. 162. Between Loslos and Broken-islands, West coast of Salawatti. 18 M. Coarse and fine sand with clay and shells. 2 Spec.

The specimen from Stat. 153 fully agrees with the description and figure quoted above, those from Stat. 162 have a second row of short spines on the canal. I think this will be of no importance, as such small differences occur also in other species. I have quoted KOBELT and LÖBBECKE as the authors, as according to their notes (l. c.); v. MARTENS has named but not described the species.

19. *Murex (Chicoreus) capucinus* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 576.
KIENER. Coq. Viv. Vol. VI, Murex, p. 42, Pl. 45, fig. 2.

REEVE. Conch. Ic. Vol. III, Murex, fig. 10.
KÜSTER/KOBELT. Martini-Chemn. Conch Cab. Ed. II, Vol. III, Murex, p. 32, Pl. 13, fig. 6, 7.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 18, Pl. 4, fig. 40.
TRYON. Man. of Conch. Vol. II, p. 94, Pl. 19, fig. 174.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River mud, coral, coral-sand. 1 Spec.

The figures of CHEMNITZ appear to be not very characteristic and the numerous specimens I have seen, much better agree with the figures of subsequent authors. TRYON thinks the locality "Philippines" may be doubtful and records the localities Valparaiso and Portorico; I think he will stand alone with his opinion. HIDALGO (Cat. Mol. Test. Filipinas p. 11) gives a stately list of localities from the Philippines; in the Catalogue of shells in the Leyden Museum, published by Dr. HORST and myself (p. 139) I have enumerated unquestionable specimens from Java, collected by Mr. OVERDIJK and from Amboina by Mr. HOEDT, other ones from the collection of Mrs. VOIGT and S. MÜLLER, with the habitat "Indian Ocean" of which the last named are authentic.

20. *Murex (Chicoreus) ramosus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 747, N$^0$ 448.
RUMPH. Amb. Rariteitkamer, p. 85, Pl. 26, fig. A.
KIENER. Coq. Viv. Vol. VI, Murex, p. 21, Pl. 1. (*inflatus*).
REEVE. Conch. Ic. Vol. III, Murex, fig. 3.
KÜSTER/KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Murex, p. 5, Pl. 1, fig. 2; Pl. 2, fig. 2; Pl. 16, fig. 1, 2 (*inflatus*).
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 11, Pl. 8, fig. 69.
TRYON. Man. of Conch. Vol. II, p. 95, Pl. 1, fig. 1, 2.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

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Moreover the collection contains four tubes with specimens belonging to the subgenus *Chicoreus* too young or bad for identification.

21. *Murex (Phyllonotus) cichoreum* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3530.
KIENER. Coq. Viv. Vol. VI, Murex, p. 52, Pl. 35, fig. 1 (*endivia*).
REEVE. Conch. Ic. Vol. III, Murex, fig. 27 (*endivia* pars).
KÜSTER/KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Murex, p. 42, Pl. 17, fig. 7 (*endivia*).
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 32, Pl. 16, fig. 153, 154 (*endivia*).
TRYON. Man. of Conch. Vol. II, p. 102, Pl. 26, fig. 22 (*endivia* pars).

Stat. 89. Pulu Kaniungan ketjil. Reef. 3 Spec.
Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion, sand and coral. 1 Spec.

The specimens are very bad but still recognizable, I have followed v. MARTENS in applying the name of GMELIN.

22. *Murex (Phyllonotus) cirrosus* Hinds.

HINDS. Proc. Zool. Soc. Lond. 1843, p. 128.
REEVE. Conch. Ic. Vol. III, Murex, fig. 138.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 40, Pl. 22, fig. 221.
TRYON. Man. of Conch. Vol. II, p. 111, Pl. 30, fig. 285.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 164. 1°42′.5 S., 130°47′.5 E. Near West New Guinea. 32 M. Sand, small stones and shells. 4 Spec.

The brown colour of the figures it not conspicuous in the Siboga specimens. They may be bleached or belong to a light variety. As REEVE in his description says that the shell is pale flesh colour, the darker brown of the figure may be exaggerated.

## Ocinebra Leach.

1. *Ocinebra Smithi* n. sp. Pl. XXI, fig. 3.

Stat. 105. 6°8′ N., 121°19′ E. Sulu-archipelago. 275 M. Coralbottom. 2 Spec.

Shell shortly fusiform, with rather long, acute spire, thin, yellowish-brown. Whorls about 7 or 8, (in the finest specimen the upper whorls are incrustated, in the other one worn) convex, slightly flattened above, separated by a deep suture. Shell rather smooth, with 8 varices on the upper whorls. 6 on the last; these varices have 2 hollow spines on the upper whorls, 3 on the penultimate and 6 on the last one, the upper spine of each varix is the longest and elegantly turned up, the other ones are only slightly upturned, the spines are connected on the intermediate areas by rather inconspicuous spiral ribs or lirae. Aperture subtriangular, upper margin horizontal, outer margin convexly curved, the spines not very prominent, as in the apertural varix they are connected by a very fine wall, consisting on the front side of fine angular scales, which are moreover undulate. Interior margin with 4 tubercles; columellar margin smooth, with a thin free lamina, columellar side and outer border of upper and right margins light violet, interior of aperture brown; canal moderately long, a little open, directed towards the right and upturned, with an external row of scales at its origin, formed by the ends of the varices.

Alt. 15, lat. 8 (inch peristome but without spines of opposite varix) apert. alt. (with canal) $8^1/_2$ lat. (from columellar margin to internal outer margin) 2 Mill.

This fine species is, according to Mr. SMITH, similar to *M. puritus* Hinds, but is not so much contracted below and the upper spines are much less curved, moreover that species is from the West-coast of N.-America; it has in my opinion more resemblance with *M. Hidalgoi* Crosse, which is however much larger (36 Mill.), of another colour and from the West Indies.

2. *Ocinebra fuscofrondosa* n. sp. Pl. XXI, fig. 4.

Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.

Shell obtusely fusiform, rather thin, yellowish, tinted with brown, with dark brown varices. Apex wanting, remaining whorls $4^1/_2$, very convex, obliquely flattened above, with deep sutures,

each whorl with 6 varices, which are shortly frondose, the largest fronds at the shoulder; below this frond there are 4 principal fronds, with smaller intermediate ones and 3 small ones between shoulder and suture, lastly 3 on the canal, the fronds of each varix are connected with those of the next one by spiral lirae, according in strength with the size of the fronds, giving a spirally lirate and striated appearance to the shell. Aperture subtriangularly rounded, apertural margin fringed, internally lirate, columellar side with a lamina, which is loosened at its free margin. Canal nearly closed, slightly directed towards the left.

Alt. 14, lat. 8; apert. alt. (with canal) 7, lat. 3 Mill.

I know no species of *Ocinebra* to which this species is allied. It has somewhat the appearance of a miniature of *M. (Phyllonotus) Stainforthi*, but the convex whorls and still more the deep suture, exclude the idea that it should be the young of it.

3. *Ocinebra contempta* A. Adams.

A. Adams. Proc. Zool. Soc. Lond. 1854, p. 315.
Kobelt. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Turbinella, p. 114, Pl. 27, fig. 7, 8.
Tryon. Man. of Conch. Vol. III, p. 92, Pl. 59, fig. 152.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 3 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 4 Spec.
Stat. 205. Lohio-bay, Buton-strait. 22 M. Sandy mud. 3 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 3 Spec.

Adams and Kobelt give as habitat West Indies. Boog Watson who had this species from Amboina, has (Challenger Report, p. 245) dealed with this subject. The Siboga-specimens don't agree very well with the figures of Kobelt, nor with that of Tryon, which is a copy of it, but they fully agree with specimens, formerly identified by E. A. Smith, who compared them with the types of Adams. According to Melvill (Historical account Latirus) this species belongs to *Ocinebra*.

4. *Ocinebra pumila* A. Adams.

A. Adams. Proc. Zool. Soc. Lond. 1853, p. 70.
Sowerby. Thes. Conchyl. Vol. IV, Murex, p. 39, Pl. 21, fig. 200.
Tryon. Man. of Conch. Vol. II, p. 130, Pl, 38, fig. 470.

Stat. 144. North of Salomakiëe-(Damar-)island. 45 M. Coral bottom and Lithothamnion. 2 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. 22 M. Mud, coral and Lithothamnion. 1 Spec.

5. *Ocinebra serotina* A. Adams.

A. Adams. Proc. Zool. Soc. Lond. 1851, p. 268.
Melvill and Standen. Proc. Zool. Soc. Lond. 1901, p. 398.

Stat. 164. 1°42'.5 S., 130°47'.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 303. Haingsisi, Samau-island. Up to 36 M. Lithothamnion. 1 Spec.

Mr. Melvill to whom I am indebted for the identification of this species, says it is somewhat misunderstood, but that the Siboga specimens exactly correspond to those from the Persian Gulf.

6. *Ocinebra pleurotomoides* Reeve.

REEVE. Conch. Ic. Vol. III, Murex, fig. 173.
SOWERBY. Thes. Conchyl. Vol. IV, Murex, p. 48, Pl. 21, fig. 206.
TRYON. Man. of Conch. Vol. II, p. 120, Pl. 36, fig. 406.

Stat. ? 1 Spec.

Though the exact locality of the specimen is not known, it certainly has lived in the Indo-Malay Archipelago; the habitat was unknown to the quoted authors.

## Urosalpinx Stimpson.

1. *Urosalpinx contracta* Reeve, var.

REEVE. Conch. Ic. Vol. III, Buccinum, fig. 53.
—— Conch. Ic. Vol. III, Buccinum, fig. 61 (*funiculatum*).
TRYON. Man. of Conch. Vol. II, Ocinebra, p. 131, Pl. 38, fig. 471, 474.
SMITH. Proc. Zool. Soc. Lond. 1879, p. 201, Pl. 20, fig. 32 (*innotabilis*).
—— Zool. Coll. of H. M. S. "Alert", p. 47.

Stat. 164. 1° 22'.5 S., 130° 47'.5 E. Halmahera Sea. 32 M. Stones and shells. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.

According to the descriptions I suppose these shells correspond to var. *innotabilis* Smith, as they have two brown interrupted lines, which I find not mentioned in the other diagnoses.

2. *Urosalpinx Smithi* n. sp. Pl. XXI, fig. 5.

Stat. 49a. Sapeh-strait. 69 M. Coral and shells. 1 Spec.

Shell small, ovate, white; whorls about 7 (Nucleus obscured by a calcareous deposit) upper ones angular about the periphery, obliquely declining from suture to angle, then slightly contracted till the lower suture. Sculpture consisting of concentric ribs, 9 on last whorl, 5 or 6 indistinct spiral lirae above the angle and 16 lirae inclusive of the angular one, on the rest of last whorl, the angular one and 3 others more prominent than the rest; these lirae are crossed by a laminar sculpture, producing a row of conspicuous scales just below the deep suture and concealing it, the interstices of the lirae being punctured by them. Aperture oblong-ovate, with an angle above; right margin strongly convexly curved, contracted below at the canal, columellar margin appressed, interior of aperture porcellaneous, white, thickened near the peristome, which is fringed by the lirae. Canal short, wide, curved to the right.

Alt. 11, lat. $5^1/_2$; apert. alt. (with canal) 6, lat. $2^1/_2$ Mill.

Named in honour of Mr. E. A. SMITH I.S.O. who has so often given me his valuable assistance. Though small, the species seems to be different from any described form.

3. *Urosalpinx bandana* n. sp. Pl. XXI, fig. 6.

Stat. 240. Banda. 9—45 M. Black sand and Lithothamnion. 1 Spec.

Shell very small, ovate, white, with a rufous band just above and below the suture,

continued as a large brownish zone at the centre of last whorl. Whorls 7, of which 3 form a smooth nucleus, with rather convex whorls, subsequent whorls very convex, with a deep suture, biangular by 2 prominent spiral lirae. Sculpture consisting of concentric ribs, 12 on last whorl, of which the labial one is thicker; these ribs are crossed by spirals, of which the upper one of the upper whorls, continues as an angle on the last whorl, with 4 thinner lirae above and 16 below it, 3 of them are more prominent on last whorl, and 3 strong ones near the base are granulous; this sculpture is crossed by fine growth-striae and small scales near the suture. Aperture ovate, obtusely angular above, with a short canal below, directed to the left; interior of aperture with 6 short folds, the peristome is regularly arched, columellar margin smooth.

Alt. 8, lat. 4; apert. alt. (with canal) $3^3/_4$, lat. $1^1/_2$ Mill.

This species is closely allied to the preceding one, it differs however in size, in colour, in shape, by its less conspicuous canal, by its larger number of ribs, more prominent lirae and the want of laminar striae, by the lirae of aperture (however this character may depend on age, perhaps the peristome of *U. Smithi* was not quite developed). After all I should not be surprized if with more materials the 2 forms must be united.

### **Maculotriton** Dall.

1. *Maculotriton digitalis* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1844, p. 12.
—— Conch. Ic. Vol. II, Triton, fig. 86.
KOBELT. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Triton, p. 256, Pl. 68, fig. 17, 18.
TRYON. Man. of Conch. Vol. III, p. 29, Pl. 15, fig. 142, 143.

Stat. 129. Near Kawio- and Kamboling-islands, Karkaralong-group. Reef. 1 Spec.
Stat. 259. 5° 29′.2 S., 132° 52′.5 E. Near Kei-islands. 487 M. Coralsand and dead coral. 1 Spec.

By the more recent researches of PILSBRY and VANATTA (Proc. Ac. Nat. Sc. Philadelphia 1904, p. 592, 593) it has been made out that this species and its congeneers have a muricoid radula, allied to that of *Ocinebra*.

### **Purpura** Bruguière.

1. *Purpura (Thalessa) hippocastanum* Linné.

LINNÉ. Syst. Nat. Ed. XII, p. 1219.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 52, Pl. 12, fig. 33.
REEVE. Conch. Ic. Vol. III, Purpura, fig. 34.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, p. 182, Pl. 31, fig. 3—5.
TRYON. Man. of Conch. Vol. II, p. 162, Pl. 45, fig. 42, 43.

Stat. 34. Labuan Pandan, Lombok. Coralreef. 2 Spec.
Stat. 37. Sailus ketjil, Paternoster-islands. Reef and 27 M. Coral and coralsand. 4 Spec.
Stat. 40. Pulu Kawassang, Paternoster-islands. Coralreef. 3 Spec.
Stat. 152. Wunoh-bay, N.-W. coast of Waigeu-island. Reef and 32 M. Lithothamnion. 2 Spec.

This species varies much, however the specimens belong more or less to the typical form, rather than to the named varieties.

2. *Purpura (Thalessa) bitubercularis* Lamarck.

LAMARCK. Ann. s. vert. Ed. II, Vol. X, p. 64.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 49, Pl. 11, fig. 32.
REEVE. Conch. Ic. Vol. III, Purpura, fig. 37.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, p. 188, Pl. 31*a*, fig. 3—8.
TRYON. Man. of Conch. Vol. II, p. 162, Pl. 45, fig. 36 (*hippocastanum* var.).

Stat. 47. Bay of Bima, near South fort. Shore. 1 Spec.

The specimen belongs to the shortly-tubercled forms.

3. *Purpura (Thalessa) pica* Blainville.

BLAINVILLE. Nouv. Ann. du Mus. Vol. I, p. 213, Pl. 9, fig. 9.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 48, Pl. 11, fig. 31.
REEVE. Conch. Ic. Vol. III, Purpura, fig. 36.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, p. 190, Pl. 31*a*, fig. 9, 10.
TRYON. Man. of Conch. Vol. II, p. 163, Pl. 46, fig. 46, 47, 52, 53.

Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.

The only specimen is hideous and scarcely recognizable.

4. *Purpura (Thalessa) echinata* Blainville.

BLAINVILLE. Nouv. Ann. du Mus. Vol. I, p. 222, Pl. 11, fig. 2.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 69, Pl. 18, fig. 52.
REEVE. Conch. Ic. Vol. III, Purpura, fig. 33.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, p. 144, Pl. 24*a*, fig. 3.
TRYON. Man. of Conch. Vol. II, p. 164, Pl. 47, fig. 63 (*mancinella* pars).

Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.

The specimen is rather short, but otherwise quite typical.

5. *Purpura (Thalessa) echinulata* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 84.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 68, Pl. 16, fig. 47.
REEVE. Conch. Ic. Vol. III, Purpura, fig. 1.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, p. 96, 143, Pl. 17, fig. 1, 2; Pl. 24*a*, fig. 1, 2.
TRYON. Man. of Conch. Vol. II, p. 164, Pl. 47, fig. 60 (*mancinella* pars).

Stat. 61. Lamakera, Solor-island. Reef. 1 Spec.

## Jopas H. & A. Adams.

1. *Jopas sertum* Bruguière.

BRUGUIÈRE. Dict. N⁰ 25.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 133, Pl. 41, fig. 96.

REEVE. Conch. Ic. Vol. III, Buccinum, fig. 42.
TRYON. Man. of Conch. Vol. II, p. 180, Pl. 55, fig. 181, 189.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 1 Spec.

Both specimens are typical, so the question if *J. francolinus* is a good species, needs not to be discussed here.

### **Cuma** Humphreys.

1. *Cuma carinifera* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 73.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 62, Pl. 14, fig. 38.
REEVE. Conch. Ic. Vol. III, Purpura, fig. 26.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, p. 97, Pl. 17, fig. 3, 6, 7; Pl. 18, fig. 3.
TRYON. Man. of Conch. Vol. II, p. 200, Pl. 62, fig. 319.

Stat. 79b. Pulu Kabala-dua, Borneo-bank. 22 M. Coralsand. 2 Spec.

One dead but characteristic specimen has been dredged.

### **Sistrum** Montfort.

1. *Sistrum hystrix* Linné.

LINNÉ. Syst. Nat. Ed. XII, p. 1219.
RUMPH. Amb. Rariteitkamer, p. 82, Pl. 24, fig. C.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 13, Pl. 2, fig. 4.
REEVE. Conch. Ic. Vol. III, Purpura, fig. 13.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, Pl. 33, fig. 1.
TRYON. Man. of Conch. Vol. II, p. 183, Pl. 56, fig. 195.

Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

I have followed TROSCHEL, TRYON, SMITH and other authors in locating this species in *Sistrum = Ricinula.*

2. *Sistrum ricinus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 750, N° 464.
RUMPH. Amb. Rariteitkamer, p. 82, Pl. 24, fig. E.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 10, Pl. 1, fig. 3 (*arachnoides*).
REEVE. Conch. Ic. Vol. III, Ricinula, fig. 5 (*arachnoides*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Ricinula, p. 6, Pl. 1, fig. 8, 9 (*arachnoides*).
TRYON. Man. of Conch. Vol. II, p. 184, Pl. 56, fig. 200; Pl. 57, fig. 204, 206, 212.

Stat. 34. Labuan Pandan, Lombok. Coralreef. 1 Spec.
Stat. 81. Pulu Sebangkatan, Borneo-bank. Reef. 1 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 1 Spec.
Stat. 213. South-island near Saleyer. Reef. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand and Lithothamnion. 1 Spec.

The specimens belong to the type with yellow-bordered lip.

3. *Sistrum horridum* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 47.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 8, Pl. 1, fig. 1.
REEVE. Conch. Ic. Vol. III, Ricinula, fig. 3.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Ricinula, p. 4, Pl. 1, fig. 1, 2.
TRYON. Man. of Conch. Vol. II, p. 184, Pl. 56, fig. 201, 202.

Stat. 225. Near South point of South Lucipara-island. Reef. 1 Spec.

The specimen is so exeedingly bad, that it is scarcely recognizable, but the number of rows of the knobs and their shape agrees with that of *S. horridum*, else it might with equal right be ascribed to *S. hystrix*, it being young and by erosion white within and without.

4. *Sistrum biconicum* Blainville.

BLAINVILLE. Nouv. Ann. du Museum, Vol. I, p. 203, Pl. 9, fig. 1.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 28, Pl. 9, fig. 24.
REEVE. Conch. Ic. Vol. III, Ricinula, fig. 12*a* (*chrysostoma* pars).
TRYON. Man. of Conch. Vol. III, p. 185, Pl. 57, fig. 208—10.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 66. Bank between islands of Bahuluwang and Tambolungan, south of Saleyer. 8—10 M. Dead coral, Halimeda, Lithothamnion. 1 Spec.

Both specimens belong to the form with short tubercles. The form represented by TRYON's fig. 211, REEVE 12*b* and KÜSTER's figure has been distinguished as *S. spinosum* by A. ADAMS, (cfr. SMITH, Fauna and Geogr. of the Maldive and Laccadive Archip., Vol. II, part. 2. Mar. Moll. p. 609 and 610, N$^0$ 134 and 135).

5. *Sistrum (Morula) tuberculatum* Blainville.

BLAINVILLE. Nouv. Ann. du Museum, Vol. I, p. 204, Pl. 9, fig. 3.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 22, Pl. 5, fig. 10.
REEVE. Conch. Ic. Vol. III, Ricinula, fig. 11.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Ricinula, p. 19, Pl. 2, fig. 6, 7.
TRYON. Man. of Conch. Vol. II, p. 186, Pl. 57, fig. 218, 220.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 4 Spec.
Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. Coral and coralsand. 4 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 78. Lumu-Lumu-shoal, Borneo-bank. 34 M. Coral and coralsand. 1 Spec.
Stat. 81. Pulu Sebangkatan, Borneo-bank. Reef. 1 Spec.
Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. 23—31 M. Sand. 1 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 1 Spec.
Stat. 172. Between Gisser and Ceram-Laut. 18 M. Coral and Lithothamnion-bottom. 1 Spec.
Stat. 296. Noimini-bay, South coast of Timor. Reef. 1 Spec.

Some specimens are nearly entirely black.

6. *Sistrum (Morula) anaxares* (Duclos) Kiener.

KIENER. Coq. Viv. Vol. VII, p. 26, Pl. 7, fig. 17.
REEVE. Conch. Ic. Vol. III, Purpura, fig. 61.

KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, p. 172, Pl. 28, fig. 12, 13.
TRYON. Man. of Conch. Vol. II, p. 186, Pl. 57, fig. 219.

Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 2 Spec.
Stat. 47. Bay of Bima, near South fort. Shore. 1 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 127. Taruna-bay, Great Sangir-island. Reef. 2 Spec.
Stat. 152. Wunoh-bay, N.W. coast of Waigeu-island. Reef. 2 Spec.
Stat. 240. Banda. Reef. 1 Spec.

As Duclos seems not to have described the species, I have quoted KIENER as the author.

7. *Sistrum (Morula) marginatrum* Blainville.

BLAINVILLE. Nouv. Ann. du Museum, Vol. I, p. 218, Pl. 10, fig. 1.
TRYON. Man. of Conch. Vol. II, p. 186, Pl. 57, fig. 225.

Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 1 Spec.
Stat. 142. Laiwui, coast of Obi Major. Reef. 1 Spec.
Stat. 277. Kulewatti-(Sollot)-bay, Dammer-island. Reef. 2 Spec.
Stat. 296. Noimini-bay, South coast of Timor. Reef. 2 Spec.

The specimen from Beo is young and somewhat doubtful; the Siboga-specimens agree with those formerly named by v. MARTENS.

8. *Sistrum (Morula) muricinum* Blainville.

BLAINVILLE. Nouv. Ann. du Museum, Vol. I, p. 218, Pl. 10, fig. 2—4.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 33, Pl. 6, fig. 13; Pl. 7, fig. 15.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, p. 138, Pl. 24, fig. 3, 4; Pl. 28, fig. 17.

Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 1 Spec.

var. *turbinoides* Blainville.

BLAINVILLE. Nouv. Ann. du Museum, Vol. I, p. 217.
KIENER. Coq. Viv. Vol. VII, p. 118, Pl. 35, fig. 82.
REEVE. Conch. Ic. Vol. III, Purpura, fig. 59*a*.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, p. 154, Pl. 25*a*, fig. 8, 9.

Stat. 7. Near reef of Batjulmati (Java). 15 M. Coral and stones. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 51. Madura-bay. Shore. 1 Spec.
Stat. 86. Dongala, Palos-bay, Celebes. 36 M. Fine grey mud. 2 Spec.

The specimen from Stat. 51 and one from Stat. 86 are still young but yet sufficiently shouldered to belong to var. *turbinoides*.

9. *Sistrum (Morula) cavernosum* Reeve.

REEVE. Conch. Ic. Vol. III, Ricinula, fig. 38.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Ricinula, p. 31, Pl. 5, fig. 13.
TRYON. Man. of Conch. Vol. II, p. 187, Pl. 58, fig. 234 (*ochrostoma* var.).

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.
Stat. 129. Near Kawio- and Kamboling-islands, Karkaralong-group. 23—31 M. Sand. 1 Spec.

The specimens are rather small, that from Stat. 129 has only traces of the brown colour.

10. *Sistrum (Morula) elatum* Blainville.

Blainville. Nouv. Ann. du Museum, Vol. I, p. 207, Pl. 11, fig. 1.
Kiener. Coq. Viv. Vol. VII, Purpura, p. 45, Pl. 10, fig. 27.
Reeve. Conch. Ic. Vol. III, Ricinula, fig. 19 (*spectrum*).
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Ricinula, p. 15, Pl. 3, fig. 2.
Tryon. Man. of Conch. Vol. II, p. 187, Pl. 57, fig. 223, 224 (*ochrostoma* pars).

Stat. 58. Seba, Savu. Reef. 1 Spec.
Stat. 129. Near Kawio- and Kamboling-islands, Karkaralong-group. 23—31 M. Sand. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand and Lithothamnion. 1 Spec.
Stat. 304. Lamakera, Solor-island. Reef. 1 Spec.

11. *Sistrum (Morula) fiscellum* Chemnitz.

Chemnitz. Conch. Cab. Ed. I, Vol. X, p. 242, Pl. 160, fig. 1524, 1525.
Reeve. Conch. Ic. Vol. III, Murex, fig. 124.
Tryon. Man. of Conch. Vol. II, p. 188, Pl. 58, fig. 251—257.

Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 89. Pulu Kaniungan ketjil. Reef. 1 Spec.

The specimens agree with the quoted figures. I think Tryon and Hidalgo are right in locating this species in the Genus *Sistrum (= Ricinula)*, it is not to be confounded with *Ricinula undata (= fiscellum)* of many authors. The only specimen in alcohol is inhabited by a hermit-crab, so I was unable to examine the radula.

12. *Sistrum (Morula) undatum* Chemnitz.

Chemnitz. Conch. Cab. Ed. I, Vol. XI, p. 124, Pl. 192, fig. 1831, 1832.
Kiener. Coq. Viv. Vol. VII, Purpura, p. 30, Pl. 6, fig. 12, 12*a* (*fiscella*).
Reeve. Conch. Ic. Vol. III, Ricinula, fig. 28 (*fiscellum*).
Tryon. Man. of Conch. Vol. II, p. 189, Pl. 57, fig. 259—262.

Stat. 34. Labuan Pandan, Lombok. Coralreef. 1 Spec.
Stat. 47. Bay of Bima, near South fort. Shore. 2 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 2 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.

A very variable species which has given much trouble, being often confused with the preceding one.

13. *Sistrum (Morula) concatenatum* Lamarck.

Lamarck. An. s. vert. Ed. II, Vol. IX, p. 599.
Kiener. Coq. Viv. Vol. VII, Purpura, p. 32, Pl. 8, fig. 20.

REEVE. Conch. Ic. Vol. III, Ricinula, fig. 18.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Ricinula, p. 22, Pl. 4, fig. 4, 5.
TRYON. Man. of Conch. Vol. II, p. 189, Pl. 59, fig. 269.

Stat. 322. Near Tandjong Lajar, South coast of Bawean-island. 32 M. Coral. 2 Spec.

14. *Sistrum (Morula) musivum* Kiener.

KIENER. Coq. Viv. Vol. VII, Purpura, p. 38, Pl. 9, fig. 22.
REEVE. Conch. Ic. Vol. III, Purpura, fig. 52.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, p. 156, Pl. 25*a*, fig. 13.
TRYON. Man. of Conch. Vol. I, p. 192, Pl. 59, fig. 284.

Stat. 19. Bay of Labuan Tring, West coast of Lombok. 18—27 M. River mud, coral, coral-sand. 1 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.

The specimen from Stat. 51 is very characteristic by its rows of brown and black tubercles.

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Moreover there are a few specimens, probably belonging to *Sistrum* or *Purpura*, too young or bad to be identified.

## **Latiaxis** Swainson.

1. *Latiaxis Deburghiae* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1857, p. 208, Pl. 38, fig. 3.
TRYON. Man. of Conch. Vol. II, p. 203, Pl. 66, fig. 383 (*Mawae* pars).
SOWERBY. Thes. Conchyl. Vol. V, p. 1, Pl. 1, fig. 5.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.
Stat. 289. 9° 0'.3 S., 126° 24'.5 E. Timor Sea. 112 M. Mud, sand and shells. 3 Spec.

This species seems to be rather variable, the specimen from Stat. 204 agrees with REEVE's figure of his *Pyrula (Rhizochilus) Deburghiae* (l. c.) as far as concerns the development of the fronds, but the sculpture of the body is more crowded, the number of spiral lirae seems to be larger in the Siboga-specimen; in this respect the specimens from Stat. 289 better agree, the fronds of 2 specimens are however more developed and more erect, remembering the figures of DALL, (Blake-report, Bull of the Mus. Comp. Zoology, Vol. XVIII, p. 218, Pl. 16, fig. 5); these fronds being also more serrated than in REEVE's figure. The latter specimens have also a tendency to be more or less costate, as seems to be the case with SOWERBY's *L. cariniferus* (Thes. Conch. fig. 6); on account of these differences it seems questionable if that species can stand as specifically different from *L. Deburghiae*. The aperture of at least one specimen from Stat. 289 is tinged with pale violet, which is probably the case in every fresh specimen; that from Stat. 47 is very young, but sufficiently agrees with the upper whorls of larger specimens.

2. *Latiaxis Sibogae* n. sp. Pl. XXI, fig. 8.

Stat. 89. Pulu Kaniungan ketjil. Reef. 1 Spec.

Shell elongately-biconical, white. Whorls about 7, of which the upper one forms a rather smooth but not quite intact nucleus; subsequent whorls angular, obliquely flattened above, contracted towards the deep lower suture. Sculpture consisting of 4 strong spiral lirae on body-whorl and numerous intermediate ones; the strong lirae are spinous, the upper one has long, slender, hollow spines, which are turned up, on the upper whorls is a second row of shorter spines, on last whorl there are five rows at all, of which the third is less conspicuous, one or two rows on the canal are likewise more prominent, moreover the whole shell is covered with lamellae, which in crossing the lirae are squamous, as well on the stronger as on the intermediate lirae. Aperture triangularly rounded, upper margin short, outer one slightly convex, internally with 4 grooves, corresponding to the strong lirae; columellar margin strongly enamellous, canal rather broad, tortuous, with a free lamella and an umbilical slit behind it, bordered by a row of larger scales.

Alt. 17, lat. (without spines) about $7^1/_2$, (with spines 14); apert. alt. (with canal) 8, lat. 3 Mill.

This species belongs to the group of *L. diadema* Adams and seems, according to the figure, to be the nearest ally of *L. exfoliatus* Sow. (Thes. Conch. Vol. V, Latiaxis, p. 3, Pl. 1, fig. 15), it is however considerably less convex, the aperture is consequently narrower, the spines are more slender, straighter, more spreading; it agrees by being nearly without umbilicus.

3. *Latiaxis ricinuloides* n. sp. Pl. XXI, fig. 7.

Stat. 257. Du-roa-strait, Kei-islands. Till 52 M. Coral. 1 Spec.

Shell shortly biconical, with short spire, pale yellowish-brown with rosy tints. Whorls $6^1/_2$, of which $1^1/_2$ form a smooth nucleus, followed by a short bilirate space; subsequent whorls angular, with a row of spines growing gradually larger, 7 on last whorl; these spines are slender, spreading, slightly upturned, hollow, rose coloured in their interior; the upper part of whorls is nearly horizontal, but a little declining, with narrow lirae, occupying also the upper surface of spines and partly squamous, lower part of last whorl with 4 conspicuous lirae, interrupted by varices below each spine; these varices form short spines or scales, about 2 on each crossing-point; moreover fine intermediate lirae and slightly squamous growth-striae give a scabrous appearance to the shell. Aperture elongately-triangular, upper margin nearly horizontal, outer one thin, undulated by the lirae, slightly convex, interiorly of a beautiful rose-colour, with a few grooves, corresponding to the lirae, columellar margin appressed above, free below, at the narrow but conspicuous umbilicus, which is bordered externally by a row of coarse, rosy scales; canal short, wide.

Alt. 14, lat. (without spines) $8^1/_2$, (with spines 19); apert. alt. (with canal) $8^1/_2$, lat. $3^1/_2$ Mill.

Though this specimen is probably not quite adult, it is too beautiful and characteristic to be neglected. I know no species like it.

4. *Latiaxis tabulatus* n. sp. Pl. XXI, fig. 9.

Stat. 95. 5°43′.5 N., 119°40′ E. Sulu-archipelago. 522 M. Stony bottom. 1 Spec.

Shell pear-shaped, probably white, but greyish in its state of preservation. Whorls about 6, upper one forming a smooth incomplete nucleus, postnuclear whorls angular, horizontally convex above, nearly straight below the angle, at the angle with a conspicuous, erected wall, nearly perpendicular in the upper whorls, slightly bent outwards in last whorl; suture deep, canaliculate, last whorl contracted below; the whole shell is covered with rather fine, subequal spiral lirae, about 38 on last whorl, inclusive of canal and erected wall, and concentric lamellose striae, rendering the lirae squamous. Aperture rounded-triangular, upper margin slightly convex, outer one more so, with a groove corresponding to the erect wall at the union of both margins, columellar margin enamelled, appressed, becoming a free lamella at the rather narrow, tortuous canal, on the left side of this lamella an umbilical perforation, bordered by a rounded, squamous, curved, basal varix. Interior of aperture smooth.

Alt. $30^1/_2$, lat. 15; apert. alt. with canal 19, lat. 7 Mill.

This very peculiar species has only a remote resemblance with *L. pagoda*, but is quite different by the erect margin or keel and by every particular; in shape it resembles much *Chrysodomus tabulatus* Baird, as figured by Dall (Proc. U. S. Nat. Mus. Vol. XXIV, 1902, Pl. 36, fig. 5) or the long known *Semifusus cochlidium*. In accordance with the first named non-related species, I have given the specific name.

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Fam. Coralliophilidae.

**Bulbus** Humphreys.

1. *Bulbus rapa* Linné.

Linné. Syst. Nat. Ed. X, p. 752, N° 476.
Rumph. Amb. Rariteitkamer, p. 91, Pl. 27, Fig. F.
Kiener. Coq. Viv. Vol. V, Pyrula, p. 31, Pl. 14, fig. 1—3 (*papyracea*).
Reeve. Conch. Ic. Vol. IV, Pyrula, fig. 21.
Kobelt. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Pyrula, Pl. 24, fig. 4, 5.
Tryon. Man. of Conch. Vol. II, p. 214, Pl. 67, fig. 392, 393 (*papyracea*).

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 3 Spec.
Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.

**Coralliophila** H. & A. Adams.

This genus is rather disagreeable to deal with, on account of the variability of most species in accordance with their mode of living, only a few of the species could be identified as belonging to known forms.

1. *Coralliophila neritoidea* Chemnitz.

CHEMNITZ. Conch. Cab. Ed. I, Vol. X, Pl. 165, fig. 1577, 1578.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 77 (*violacea*), Pl. 19, fig. 57 (*diversiformis*).
REEVE. Conch. Ic. Vol. III, Purpura, fig. 68 (*squamulosa*), fig. 70 (*violacea*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, p. 142, 177, Pl. 24, fig. 9, 10; Pl. 29, fig. 11 (*violacea*), fig. 12 (*squamulosa*).
TRYON. Man. of Conch. Vol. II, p. 206, Pl. 65, fig. 353, 355, 356; Pl. 66, fig. 375.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coral, mud. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand and Lithothamnion. 1 Spec.
Stat. 289. Between Nusa Besi and N.E.-point of Timor. 27—54 M. Sand, coral and Lithothamnion. 1 Spec.

2. *Coralliophila galea* Chemnitz.

CHEMNITZ. Conch. Cab. Ed. I, Vol. X, Pl. 160, fig. 1518, 1519.
KIENER. Coq. Viv. Vol. VII, p. 75, Pl. 19, fig. 56 (*abbreviata*).
REEVE. Conch. Ic. Vol. III, Purpura, fig. 65.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. II, Purpura, p. 95, Pl. 16, fig. 7, 8.
TRYON. Man. of Conch. Vol. II, p. 207, Pl. 65, fig. 363, 364.

Stat. 89. Pulu Kaniungan ketjil. Reef. 1 Spec.
Stat. 96. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu-archipelago. 12 M. Lithothamnion, sand and coral. 1 Spec.
Stat. 144. North of Salomakiëe-(Damar)-island. Reef. 1 Spec.
Stat. 164. 1°42′.5 S., 130°47′.5 E. Halmahera Sea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 250. Kilsuin, West coast of Kur-island. 27 M. Coral and Lithothamnion. 1 Spec.

The specimens are young but agree with the upper whorls of full-grown ones.

3. *Coralliophila madreporarum* Sowerby.

SOWERBY. Genera of shells, fig. 12.
KIENER. Coq. Viv. Vol. VII, Purpura, p. 84, Pl. 17, fig. 50, 50*a* (*monodonta*).
REEVE. Conch. Vol. III, Purpura, fig. 69.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. III, Purpura, p. 178, Pl. 29, fig. 13—15.
TRYON. Man. of Conch. Vol. II, p. 212, Pl. 67, fig. 389—391, 394.

Stat. 78. Lumu-Lumu-shoal, Borneo-bank. 34 M. Coral and coralsand. 6 Spec.

The specimens are small but agree in every respect with full-grown ones, except in the colour of aperture, which is white. (Perhaps bleached in alcohol). Of 2 specimens from Mauritius in my private collection, one has the aperture likewise nearly white.

4. *Coralliophila rubrococcinea* Melvill and Standen?

MELVILL and STANDEN. Proc. Zool. Soc. Lond. 1901, p. 401, Pl. 21, fig. 2.

Stat. 240. Banda. 9—45 M. Black sand and Lithothamnion. 2 Spec.
Stat. 285. Near South coast of Timor. 34 M. Limit between mud and coral. 2 Spec.

The specimens are young and very small, the largest being 10 Mill., instead of 23, so

I could not recognize them without the assistance of Mr. MELVILL, who says to be by no means sure of the identity, the peculiarly granose protoconch is in accordance with that of *rubrococcinea*. I have preferred to unite these and the next young specimens with more or less doubt to known species, instead of describing more species on such small specimens in so variable a genus.

5. *Coralliophila squamosissima* Smith?

SMITH. Ann., Mag. Nat. Hist. Ser. 4, Vol. XVII, 1876, p. 404.
TRYON. Man. of Conch. Vol. II, p. 209, Pl. 65, fig. 354.

Stat. 95. 5°43'.5 N.; 119°40' E. Sulu-archipelago. 522 M. Stony bottom. 1 Spec.

Mr. MELVILL writes about this shell, that it is the nearest ally of, but not quite the same as *C. squamosissima*; for the reasons mentioned above, I have recorded it with that name.

6. *Coralliophila andamana* Melvill?

MELVILL. Journ. of Conch. 1891, Vol. VI, p. 31, Pl. 2, fig. 1.

Stat. 59. Western-entrance Samau-strait. 390 M. Coarse coralsand with small stones. 1 spec.

This young specimen has also been identified with doubt.

7. *Coralliophila* sp.?

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.

A very elongate, perhaps new, but probably young specimen, for this last reason I abstain myself from naming it.

8. *Coralliophila* sp.?

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.

A small certainly young specimen, seems to belong to *Coralliophila*, but is quite unidentifiable and still in worse condition for description, than the former species.

9. *Coralliophila persica* Melvill var.

MELVILL. Mem. and Proc. Manchester Lit. and Phil. Soc. Vol. XLI, 1896—7, p. 6, Pl. 4.

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 12 Spec.

It is not without some doubt that I have named the specimens *C. persica*, as I had first sent a few of them to Mr. MELVILL as the author of the species, who did not recognize them, but afterwards I learned his 2 specimens were sent to the British Museum; as it is not safe to describe new species in this genus of variable forms, without close comparison with the types, I consulted Mr. E. A. SMITH, who says about this shell: "the nearest species we have

is *C. persica* Melvill and indeed I do not think they are separable. We have two specimens of *C. persica* and both have the upper part of the spire not quite so pointed as in your shells, otherwise I can find no difference". As the nuclear whorls are so often more or less eroded, this difference may be of no great importance. Other differences I found with the quoted figure are that part of the Siboga-specimens are considerably larger (till 21 Mill. in length, instead of 15) that the last whorl is often much more ventricose, the canal commonly more slender and not so straight; as however many of these characters are slightly variable in the Siboga specimens, I think it will be fit to accept Mr. SMITH's views, as he was the only person, able to make direct comparison. The species has also some resemblance with *C. Jeffreysi*, but Mr. SMITH says it is quite unlike and even a less typical specimen, with more equal lirae, sent by Mr. MELVILL for comparison, is very different in its particulars of sculpture.

# PLATE XVIII.

Fig. 1. *Oliva rufofulgurata* n. sp.
Fig. 2. *Oliva dubia* n. sp.
Fig. 3. *Oliva ceramensis* n. sp.
Fig. 4. *Ancilla Edgariana* n. sp.
Fig. 5. *Ancilla abyssicola* n. sp.
Fig. 6. *Marginella virgo* n. sp.
Fig. 7. *Marginella rufolineata* n. sp.
Fig. 8. *Marginella abyssicola* n. sp.
Fig. 9. *Cancellaria nassoides* n. sp.
Fig. 10. *Mitra Sibogae* n. sp.
Fig. 11*a, b*. *Mitra simplicissima* n. sp. type.
Fig. 11*c*. *Mitra simplicissima* var. *glabra* n. var.

Fig. 1-3 v. Eybergen, 4-11 Ch. Dumont del.

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# PLATE XIX.

Fig. 1. *Mitra abyssicola* n. sp.
Fig. 2. *Fusus Thielei* n. sp.
Fig. 3. *Fusus brevicaudatus* n. sp.
Fig. 4. *Fusus chrysodomoides* n. sp.
Fig. 5. *Peristernia incerta* n. sp.
Fig. 6. *Chrysodomus Smithi* n. sp.
Fig. 7. *Cyllene Sibogae* n. sp.
Fig. 8. *Tritonidea dentata* n. sp.
Fig. 9. *Phos minutus* n. sp.
Fig. 10. *Nassa elegans* Kiener, var. *fulgurans* n. var.
Fig. 11. *Nassa elegantula* n. sp.
Fig. 12. *Nassa flammulata* n. sp. *b.* larger specimen, peristome not developed.

Fig. 1-8, 10 Ch. Dumont, 9 H.W. de Graaf, 11 A. de Vos t. N.C., 12 J. F. Obbes del.

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# PLATE XX.

Fig. 1. *Nassa ovoidea* n. sp.
Fig. 2. *Nassa macrocephala* n. sp.
Fig. 3. *Nassa crebricostata* n. sp.
Fig. 4. *Nassa multipunctata* n. sp.
Fig. 5. *Nassa granosocostata* n. sp.
Fig. 6. *Columbella circumstriata* n. sp.
Fig. 7. *Columbella elongata* n, sp.
Fig. 8. *Columbella simplex* n. sp. *b.* smaller, less slender specimen.
Fig. 9. *Columbella conspersa* Gaskoin, var. *brevis* n. var.
Fig. 10. *Columbella conspersa* Gaskoin, var. *nodosa* n. var.
Fig. 11. *Columbella undulata* n. sp. *b.* younger specimen with sculpture more developed.
Fig. 12. *Columbella perplexa* n. sp.

Fig. 1-3, 6 H.W. de Graaf, 4, 7-10, 12 J. F. Obbes, 5, 11 A. de Vos t. N.C. del.

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# PLATE XXI.

Fig. 1. *Trophon obtuseliratus* n. sp. *a*. largest, *b*. smaller specimen.
Fig. 2. *Trophon pulchellus* n. sp.
Fig. 3. *Ocinebra Smithi* n. sp.
Fig. 4. *Ocinebra fuscofrondosa* n. sp.
Fig. 5. *Urosalpinx Smithi* n. sp.
Fig. 6. *Urosalpinx bandana* n. sp.
Fig. 7. *Latiaxis ricinuloides* n. sp.
Fig. 8. *Latiaxis Sibogae* n. sp.
Fig. 9. *Latiaxis tabulata* n. sp.

Ch. Dumont, del.

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# PLATE XXII.

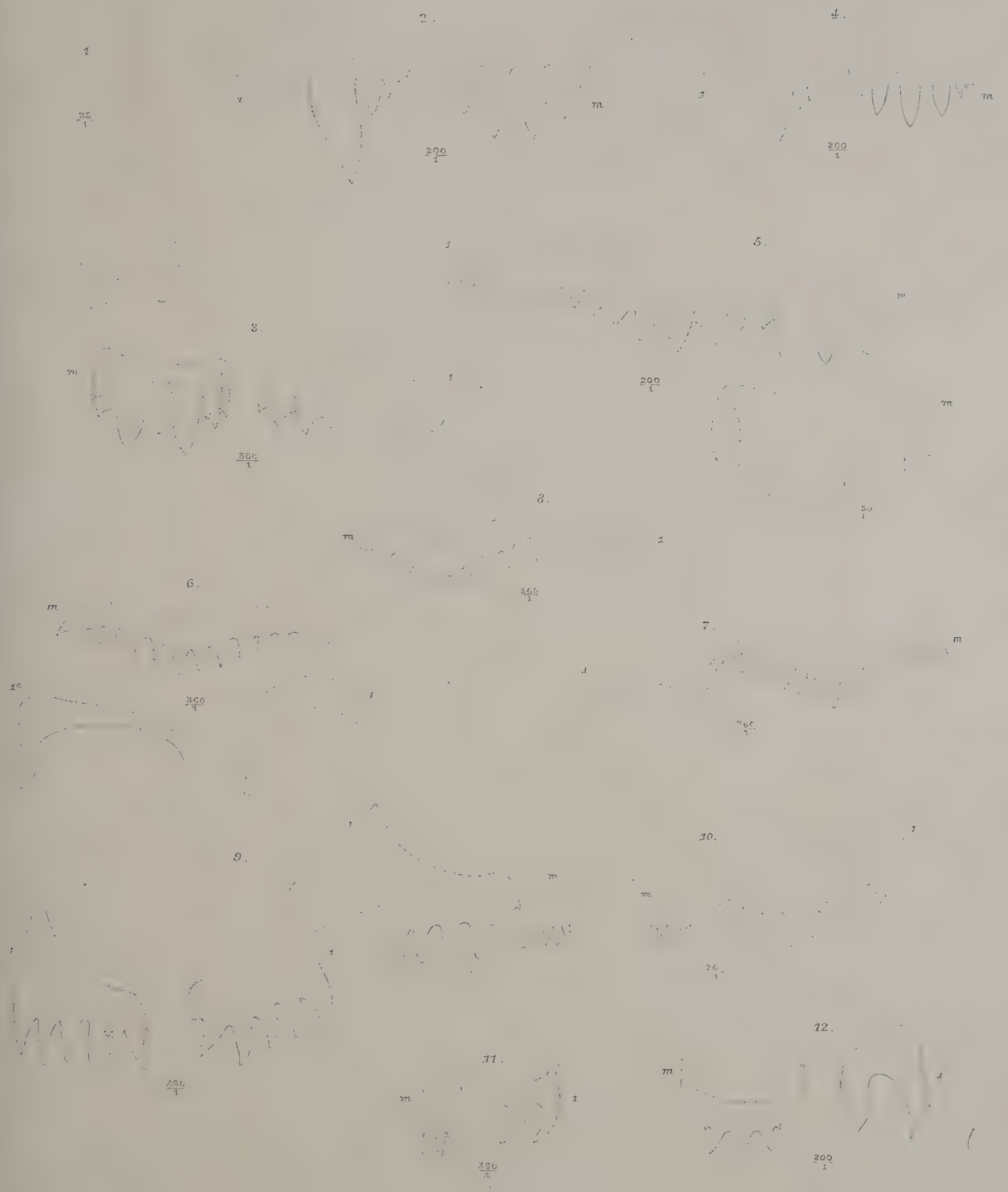
Fig. 1. *Oliva rufofulgurata* n. sp. 2 specimens.
Fig. 2. *Oliva dubia* n. sp. *b.* darker specimen.
Fig. 3. *Oliva ceramensis* n. sp.
Fig. 4. *Mitra Marionae* Melvill.
Fig. 5. *Mitra millepunctata* n. sp.
Fig. 6. *Mitra albocoronata* n. sp.
Fig. 7. *Turricula minahassae* Schepman.
Fig. 8. *Turricula scitula* Adams.
Fig. 9. *Latirus Melvilli* n. sp.
Fig. 10. *Cyllene oblonga* n. sp.

Fig. 1—3 J. van Eybergen, 4—10 Ch. Dumont del.

Fa P. W. M. Trap, Leiden.

# PLATE XXIII.

Fig. 1. Maxilla of *Cancellaria crenifera* Sow.
Fig. 2. Teeth of radula of *Mitra Mariae* A. Ads.
Fig. 3. Teeth of radula of *Mitra crenifera* Lam.
Fig. 4. Teeth of radula of *Mitra coriacea* Rve.
Fig. 5. Teeth of radula of *Strigatella paupercula* Lin.
Fig. 6. Teeth of radula of *Turricula vulpecula* Lin.
Fig. 7. Teeth of radula of *Turricula cruentata* Chemn.
Fig. 8. Teeth of radula of *Turricula spicata* Rve.
Fig. 9. Teeth of radula of *Fusus Thielei* n. sp.
Fig. 10. Teeth of radula of *Fusus chrysodomoides* n. sp.
Fig. 11. Teeth of radula of *Chrysodomus (Sipho) Smithi* n. sp.
Fig. 12. Teeth of radula of *Phos roseatus* Hinds.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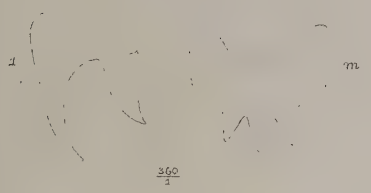
# PLATE XXIV.

Fig. 1. Teeth of radula of *Phos nodicostatus* A. Ads.
Fig. 2. Teeth of radula of *Engina histrio* Rve.
Fig. 3. Teeth of radula of *Engina mendicaria* Lin.
Fig. 4. Teeth of radula of *Nassaria suturalis* A. Ads.
Fig. 5. Teeth of radula of *Trophon obtuseliratus* n. sp.
Fig. 6. Teeth of radula of *Murex nigrispinosus* Rve.
Fig. 7. Teeth of radula of *Murex tenuispina* Lam.
Fig. 8. Teeth of radula of *Murex ternispina* Lam.
Fig. 9. Teeth of radula of *Murex aduncospinosus* (Beck) Rve., var. *concinna* Rve.
Fig. 10. Teeth of radula of *Murex martinianus* Rve.
Fig. 11. Teeth of radula of *Murex axicornis* Lam.

1.

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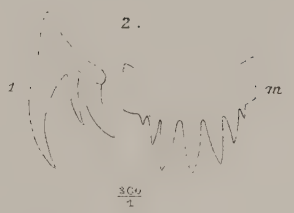


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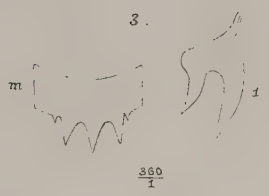
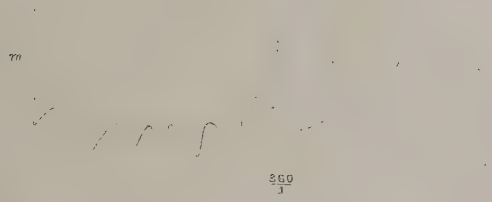



4.

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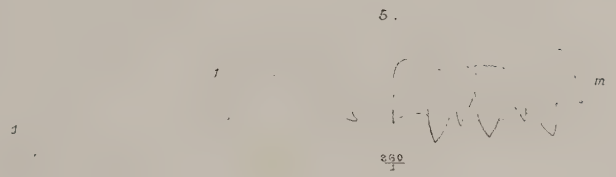


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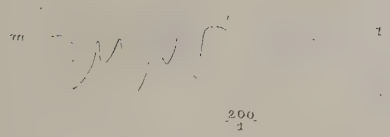


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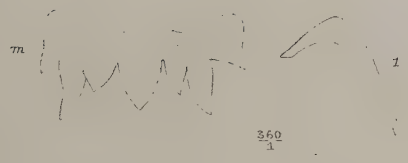


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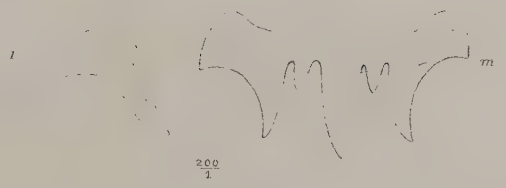


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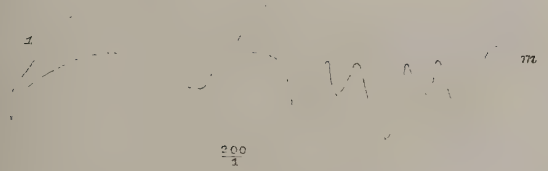


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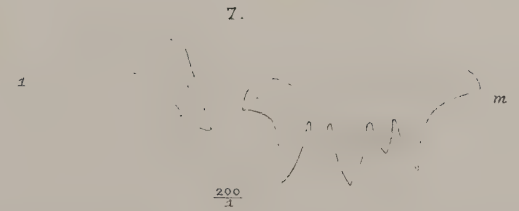


*M.M.S. del.*

Fa. P. W. M. Trap impr.

PART V

# TOXOGLOSSA

## WITH A SUPPLEMENT

The very interesting section of the Toxoglossa contains 228 species, of which no less than 65 appear to be new to science, moreover to this part a small supplement to preceding parts has been added, containing 3 new species.

The family of the *Pleurotomidae*, with 127 enumerated species and a few varieties, has given me much trouble, but has not given me full satisfaction, the systematic position of many species remaining still more or less doubtful and the classification of this family much wants a revision. I have often followed the arrangement of the late Prof. BOETTGER for the species from the Philippines. The relatively small number of specimens dredged with the soft parts, prevented me from examining the radular teeth, in most cases where they might have given some light. Under these circumstances, I am very grateful to those persons who have assisted me in the identification of critical specimens. Mr. E. A. SMITH I.S.O. often compared them with the treasures of the British Museum, Mr. J. COSMO MELVILL has given me his advice and in some cases specimens for comparison, Mr. J. R. LE BOCKTON TOMLIN likewise assisted me by identification or loan of specimens, Mr. J. J. VERWIJNEN has again much obliged me by the loan of books from the rich library of Teyler's Museum, and other persons amongst which I wish to name Dr. R. HORST, have assisted me in several ways. I beg them all to accept my kind thanks.

In two cases I was compelled to erect new genera of *Pleurotomidae*, as it was impossible to locate the species in the existing ones, though I was not at all eager to enlarge the number of groups, as long as no revision of the whole family has been undertaken by some person who is in particularly favorable conditions, to fulfil this much needed but very troublesome task.

Section Toxoglossa Troschel.

Fam. Terebridae.

**Terebra** Adanson.

1. *Terebra subulata* Linné.

Linné. Syst. Nat. Ed. XII, p. 1205.
Rumph. Amb. Rariteitkamer, p. 100, Pl. 30, fig. B.
Kiener. Coq. Viv. Vol. VIII, Terebra, p. 10, Pl. 4, fig. 6.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Terebra, p. 23, Pl. 6, fig. 1.
Sowerby. Thes. Conchyl. Vol. I, p. 151, Pl. 41, fig. 16; Pl. 42, fig. 38, 39.
Reeve. Conch. Ic. Vol. XII, Terebra, fig. 22.
Tryon. Man of Conch. Vol. VII, p. 10, Pl. 1, fig. 3.

Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion. 1 Spec.
Stat. 279. Roma. Reef. 1 Spec.

2. *Terebra muscaria* Lamarck.

Lamarck. An. s. vert. Ed. II, Vol. X, p. 241.
Kiener. Coq. Viv. Vol. VIII, Terebra, p. 9, Pl. 3, fig. 4, 4*a*.
Küster. Martini-Chemn. Conch. Cab. Ed. II. Vol. V, Terebra, p. 4, Pl. 2, fig. 8.
Sowerby. Thes. Conchyl. Vol. I, p. 154, Pl. 41, fig. 17, 20; Pl. 42, fig. 41.
Reeve. Conch. Ic. Vol. XII, Terebra, fig. 9.
Tryon. Man. of Conch. Vol. VII, p. 9, Pl. 1, fig. 12.

Stat. 91. Muaras reef, East coast of Borneo. Up to 54 M. Hard coral, sand. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion. 1 Spec.
Stat. ? 1 Spec.

The specimen from Stat. 91 is very young (about 15 Mill.) and bleached, consequently scarcely recognizable.

3. *Terebra dimidiata* Linné,

Linné. Syst. Nat. Ed. X, p. 742, N° 420.
Kiener. Coq. Viv. Vol. VIII, Terebra, p. 6; Pl. 2, fig. 2.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Terebra, p. 7, Pl. 1, fig. 8, Pl. 4, fig. 2, 3.
Sowerby. Thes. Conchyl. Vol. I, p. 153, Pl. 41, fig. 7, 8.
Reeve. Conch. Ic. Vol. XII, Terebra, fig. 27.
Tryon. Man. of Conch. Vol. VII, p. 9, Pl. 1, fig. 13.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion. 2 Spec.
Stat. ? 2 Spec.

4. *Terebra oculata* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 242.
RUMPH. Amb. Rariteitkamer, p. 100, Pl. 30, fig. D.
KIENER. Coq. Viv. Vol. VIII, Terebra, p. 11, Pl. 4, fig. 7.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Terebra, p. 13, Pl. 2, fig. 9.
SOWERBY. Thes. Conchyl. Vol. I, p. 156, Pl. 42, fig. 31.
TRYON. Man. of Conch. Vol. VII, p. 10, Pl. 2, fig. 20.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.

5. *Terebra crenulata* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 741, N⁰ 416.
RUMPH. Amb. Rariteitkamer, p. 100, Pl. 30, fig. E.
KIENER. Coq. Viv. Vol. VIII, Terebra, p. 13, Pl. 5, fig. 9.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Terebra, p. 8, Pl. 1, fig. 10; Pl. 3, fig. 7, 8.
SOWERBY. Thes. Conchyl. Vol. I, p. 153, Pl. 41, fig. 18, 19; Pl. 42, fig. 32.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 6.
TRYON. Man. of Conch. Vol. VII, p, 8, Pl. 1, fig. 1, 2.

Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Coral and coralsand. 1 Spec.
Stat. 225. Near South-point of South-Lucipara-island. Reef. 5 Spec.

The specimens belong to the type; though some of the quoted figures may represent the var. *fimbriata* Desh., I have not omitted them in every case.

6. *Terebra maculata* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 741, N⁰ 415.
RUMPH. Amb. Rariteitkamer, p. 100, Pl. 30, fig. A.
KIENER. Coq. Viv. Vol. VIII, Terebra, p. 4, Pl. 1, fig. 1.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Terebra, p. 11, Pl. A, fig. 1; Pl. 2, fig. 7; Pl. 3, fig. 1.
SOWERBY. Thes. Conch. Vol. I, p. 150, Pl. 42, fig. 33.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 4.
TRYON. Man. of Conch. Vol. VII, p. 9, Pl. 1, fig. 9, 10.

Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Shore. 1 Spec.
Stat. 142. Laiwui, Coast of Obi Major. 23 M. Mud. 2 Spec.

This and the foregoing 5 species of *Terebra*, are long known forms, about which the Siboga-specimens give no reason for observations, as they are quite typical.

7. *Terebra myuros* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 247.
RUMPH. Amb. Rariteitkamer, p. 100, Pl. 30, fig. H.
KIENER. Coq. Viv. Vol. VIII, Terebra, p. 40, Pl. 14, fig. 34.

KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Terebra, p. 20, Pl. 3, fig. 2; Pl. 5, fig. 3.
SOWERBY. Thes. Conchyl. Vol. I, p. 170, Pl. 42, fig. 37 (*commaculata*).
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 31.
TRYON. Man. of Conch. Vol. VII, p. 27, Pl. 7, fig. 30.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 153. 0° 3'.8 N., 130° 24'.3 E. Bougainville-strait. 141 M. Fine and coarse sand with dead shells. 1 Spec.

The specimen from Stat. 51 is rather large, of dark colour, that from Stat. 153 is very young and bleached.

var. *scabrella* Lamarck.

LAMARCK. l. c. p. 247.
KIENER. l. c. p. 41, Pl. 14, fig. 34*a*.
KÜSTER. l. c, p. 21, Pl. 5, fig. 4.
SOWERBY. l. c. p. 170.
TRYON. l. c. p. 27 (*myoros* pars).

Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.
Stat. 51. Madura-bay, 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.

All the quoted authors agree that LAMARCK has gone too far by dealing with this shell as a separate species. The specimen from Stat. 37 is a young worn shell.

8. *Terebra (Strioterebrum) nebulosa* Sowerby.

SOWERBY. Tankerv. Cat. App. p. 25.
SOWERBY. Thes. Conchyl. Vol. I, p. 162, Pl. 43, fig. 51.
REEVE. Conch. Ic. Vol. XII, Terebra fig. 1.
TRYON. Man. of Conch. Vol. VII, p. 23, Pl. 6, fig. 9.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 2 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. Lithothamnion. 4 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.
Stat. 282. Between Nusa Besi and N.E.-point of Timor. 27—54 M. Sand, coral and Lithothamnion. 4 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 2 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. 22 M. Mud, coral and Lithothamnion. 1 Spec.

9. *Terebra (Strioterebrum) textilis* Hinds.

HINDS. Proc. Zool. Soc. Lond. 1843, p. 156.
SOWERBY. Thes. Conchyl. Vol. I, p. 177, Pl. 44, fig. 73.
REEVE. Conch. Ic. Vol. XII. Terebra, fig. 130.
TRYON. Man. of Conch. Vol. VII, p. 20, Pl. 5, fig. 75.

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 4 Spec.

This species is slightly variable in the number of spirals, which vary from 4 to 7, but agree in other respects; the largest is smaller than REEVE's figure (line on the left) but agrees in colour, which may be too dark in SOWERBY's monograph, where it is more brown.

10. *Terebra (Strioterebrum) amoena* Deshayes.

DESHAYES. Proc. Zool. Soc. Lond. 1859, p. 297.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 80.
TRYON. Man. of Conch. Vol. VII, p. 19, Pl. 5, fig. 73.

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 2 Spec.
Stat. 282. Between Nusa Besi and N.E.-point of Timor. 27—54. M. Sand coral and Lithothamnion. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

The specimens are more coarsely sculptured than in REEVE's figure, which was drawn after the unique specimen, as however the Siboga-specimens are more or less variable in this respect, I think it is unnecessary to give them a varietal name. One specimen from Stat. 313 agrees in sculpture, but is somewhat doubtful, as being in no good condition. The species has not been described in Journal de Conchyliologie 1857, as REEVE and TRYON state, the latter with the right page-number of Proceedings Zool. Soc. Lond.

11. *Terebra (Strioterebrum) fenestrata* Hinds.

HINDS. Proc. Zool. Soc. Lond. 1843, p. 153.
SOWERBY. Thes. Conchyl. Vol. I, p. 176, Pl. 44, fig. 86.
REEVE. Conch. Ic. Vol. XII, fig. 114.
TRYON. Man. of Conch. Vol. VII, p. 28, Pl. 8, fig. 46.

Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 169. Atjatuning, West-coast of New-Guinea. 25 M. Mud. 1 Spec.
Stat. ? 1 Spec.

12. *Terebra (Strioterebrum) exiguoides* n. sp. Pl. XXV, fig. 5.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.

Shell small, subcylindrically subulate, dark yellowish-brown, with upper part of ribs whitish. Upper whorls wanting, remaining whorls 7, but may have been nearly the double, if one considers the subulate shape; whorls nearly straight, only slightly convex, separated by a deep suture, with slightly curved ribs, 18 on last whorl, divided at the upper part by a groove, consisting of a row of conspicuous punctures between the ribs, but scarcely affecting the ribs themselves and with 4 impressed spiral striae on each whorl, conspicuous between the ribs and at their sides, but very weak on their crests; about 12 spiral striae on last whorl, of which 8 crossed by the ribs, the interstices of the basal ones having more the character of granular lirae, are not ribbed. Aperture elongate, angular above, with a sinus formed by the body whorl and infrasutural belt; right margin obtuse, columellar side with a strong layer of enamel, its interior margin with two folds, canal short, divided by an oblique rib, closely striated above and below it. Interior of aperture smooth, brown. Basal sinus narrow.

Alt. $11^1/_2$, (may have been 19 or 20), lat. $2^3/_4$; apert. alt. 3, lat. $1^1/_4$ Mill.

This species is nearly allied to *T. exigua* Desh., but is much more cylindrical in shape, moreover the subsutural belt is spirally striated in that species, quite smooth in the new one,

these differences connected with other ones of less importance, induced me to consider it as new. Though the upper whorls are wanting, the shell is quite fresh.

13. *Terebra (Strioterebrum) roseata* Adams and Reeve.

ADAMS and REEVE. Moll. Voy, Samarang. p. 30, Pl. 10, fig. 24.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 104.
TRYON. Man. of Conch. Vol. VII, p. 21, Pl. 5, fig. 90.

Stat. 104. Sulu harbour, Sulu-island. 14 M. Sand. 3 Spec.

This characteristic species has been collected at or near the original locality.

14. *Terebra (Strioterebrum) Macgillivrayi* Smith. Pl. XXV, fig. 6.

SMITH. Ann. and Mag. Nat. Hist. Ser. 4, Vol. XI, 1873, p. 267.

Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand very fine. 2 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 3 Spec.
Stat. 260. Near Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 2 Spec.

The specimen from Stat. 71 is a little doubtful, its subsutural band being less conspicually spirally striated than specimens identified by Mr. SMITH; on the latter I find 2 faint yellowish spiral bands, not mentioned in the original description, and scarcely or not at all perceptible in dead shells, one just below the subsutural band, the other above the suture or on periphery of last whorl; as this species as far as I am aware, has not yet been figured, I thought it desirable to give a figure of a not very large specimen (only 17 Mill.) which is quite fresh and has been examined by its author.

15. *Terebra (Strioterebrum) turrita* Smith. Pl. XXV, fig. 7.

SMITH. Ann. and Mag. Nat. Hist. Ser. 4. Vol. XI, 1873, p. 266.

Stat. 153. 0° 3'.8 N., 130° 24'.3 E. Bougainville-strait. 141 M. Fine and coarse sand with dead shells. 1 Spec.

Though the specimen seems not to be quite adult, (17 Mill.) and not intact, I thought it worth to give a figure, as it is still unfigured.

16. *Terebra (Strioterebrum) marmorata* Deshayes.

DESHAYES. Proc. Zool. Soc. Lond. 1859, p. 279.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 91.
TRYON. Man. of Conch. Vol. VII, p. 15, Pl. 12, fig. 34.

Stat. 49a. Sapeh-strait. 70 M. Coral and shells. 1 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 2 Spec.
Stat. 184. Kampong Kelang, South coast of Manipa-island. 36 M. Coralsand. 1 Spec.

The specimen from Stat. 49a has the brown subsutural spots less developed than the specimen figured by REEVE.

17. *Terebra (Strioterebrum) polygyrata* Deshayes.

DESHAYES. Proc. Zool. Soc. Lond. 1859, p. 301.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 146.
TRYON. Man. of Conch. Vol. VII, p. 23, Pl. 7, fig. 10.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 1 Spec.
Stat. 142. Laiwui, coast of Obi Major. 23 M. Mud. 2 Spec.
Stat. 153. 0° 3'.8 N., 130° 24'.3 E. Bougainville-strait. 141 M. Fine and coarse sand with dead shells. 2 Spec.
Stat. 181. Amboina. 54 M. Coralsand. 1 Spec.
Stat. 205. Lohio-bay, Buton-strait. 22 M. Sandy mud. 4 Spec.
Stat. 294. 10° 12'.2 S., 124° 27'.3 E. Timor-sea. 73 M. Soft mud with very fine sand. 1 Spec.

The figure of REEVE is not very characteristic and that of TRYON, which is a rude copy of it, still less fine; amongst the Siboga-specimens, some are of the length recorded by DESHAYES (13 Mill.) or even less, but the largest, from Stat. 114, has a length of 28 Mill., another less typical one, without upper whorls must even have been larger.

18. *Terebra (Strioterebrum) violascens* Hinds var.

HINDS. Proc. Zool. Soc. Lond. 1843, p. 154.
SOWERBY. Thes. Conchyl. Vol. I, p. 177.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 125.
TRYON. Man. of Conch. Vol. I, p. 35, Pl. 10, fig. 98.

Stat. 51. Madura-bay. 69—91. M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 3 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 2 Spec.

I have not quoted HINDS' figure in the Thesaurus Conchyliorum, as fig. 98 of Plate 45 represents the form of New Guinea. The Siboga-specimens agree rather well with REEVE's figure, copied by TRYON, as they are whitish with a yellowish-brown band below the suture, which colour-variety has been mentioned but not figured by HINDS, in REEVE's figure this band is not visible in my copy. I have failed to find the words ascribed to REEVE by TRYON.

19. *Terebra (Strioterebrum) multistriata* n. sp. Pl. XXV, fig. 8.

Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.

Shell moderately large, elongate, very slender, white, with faint traces of an interrupted, yellowish, subsutural zone and two still fainter ones on last whorl. Whorls 25, of which about 3 form a smooth nucleus, with convex whorls, subsequent whorls strongly convex for the genus, separated by a deeply impressed, undulated suture; sculpture consisting of conspicuous, elegantly curved ribs, 14 on last whorl, the crests of ribs smooth, but their sides and the interstices

crossed by numerous impressed striae, or if one considers their interstices by unequal flat lirae; 18 striae on penultimate whorl, of which one, placed at some distance from the suture, has the appearance of a groove; the ribs nearly reach the base of last whorl, where the number of striae is much more considerable; this last whorl is very long, subangularly rounded below, then strongly contracted. Aperture elongate, narrow, with a not very sharp angle above, ending in a rather long, curved canal below; peristome not intact, columellar margin consisting of an appressed layer of enamel, with a scarcely appreciable groove below, bordering a faint columellar fold. Interior of aperture smooth, white.

Alt. 35, lat. $4^1/_3$; apert. alt. $4^3/_4$, lat. $1^3/_5$ Mill.

The nearest ally of this species may be *T. Fortunei* Desh. (Journ. de Conch. 1857, p. 79, Pl. 4, fig. 1), but with probably an equal number of whorls (DESHAYES says 20 whorls without the apex, which he suspects may be 5 or 6 more) it is much smaller (*T. Fortunei* 69 Mill.) there are but 6 spiral striae, of which the first borders the subsutural zone, in the new species this zone is likewise striated, and though the specimen from Stat. 204 has only 12 spiral striae, this number is still twice the number recorded by DESHAYES for *T. Fortunei*.

20. *Terebra (Strioterebrum) affinis* Gray.

GRAY. Proc. Zool. Soc. Lond. 1834, p. 60.
KIENER. Coq. Viv. Vol. VIII, p. 34, Pl. 11, fig. 24*b* (*pertusa* var.).
SOWERBY. Thes. Conchyl. Vol. I, p. 172, Pl. 46, fig. 78.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 39.
TRYON. Man. of Conch. Vol. VII, p. 14, Pl. 2, fig. 22.

Stat. 66. Bank between islands of Bahuluwang and Tambolungan, South of Saleyer. 8—10 M. Dead coral, Halimeda, Lithothamnion. 1 Spec.
Stat. 78. Lumu-Lumu-shoal, Borneo-bank. 34 M. Coral and coralsand. 1 Spec.
Stat. 282. Between Nusa Besi and N.E.-point of Timor. 27—54 M. Sand, coral and Lithothamnion. 2 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.

21. *Terebra (Strioterebrum) undulata* Gray.

GRAY. Proc. Zool. Soc. Lond. 1834, p. 60.
SOWERBY. Thes. Conchyl. Vol. I, p. 172, Pl. 43, fig. 55.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 84.
TRYON. Man. of Conch. Vol. VII, p. 22, Pl. 6, fig. 4.

Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 2 Spec.
Stat. 184. Near Kampong Kelang, South coast of Manipa-island. 36 M. Coral, sand. 1 Spec.
Stat. 277. Kulewatti-bay, Dammer-island. 45 M. Sand, white and black mixed. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and Mud. 1 Spec.

The specimens belong to the form represented by the quoted figures, with white subsutural band, one could think, after TRYON's words, REEVE would have united even *T. cinctella* Desh. with this species, but REEVE unites only *T. approximata* Desh. as a synonym, and deals with

*cinctella* Desh. as a synonym of *picta* Hinds (l. c. sp. 112). I have no materials to form an opinion, in how far these 4 names ought to be united under one head.

var. *laevior* n. var. Pl. XXV, fig. 9.

Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion. 1 Spec.

Differing from the typical specimens by the wanting of spiral striae between the ribs, which are placed closer together, the subsurutal groove only remaining; the white colour is persisting also a little below the groove, a difference which I find also, though less clearly, in other specimens. As the only specimen is young, ($17^1/_2$ Mill.), I prefer to give it only a varietal name, to describing it as a new species. Indeed the differences are rather insignificant.

22. *Terebra (Strioterebrum) columellaris* Hinds var.

HINDS. Proc. Zool. Soc. Lond. 1843, p. 151.
SOWERBY. Thes. Conchyl. Vol. I, p. 172, Pl. 44, fig. 77; Pl. 45, fig. 127.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 113.
TRYON. Man. of Conch. Vol. VII, p. 22, Pl. 6, fig. 93 (*cancellata* var.).

Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion. 1 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. 22 M. Mud, coral and Lithothamnion. 1 Spec.

The specimen from Stat. 240 is somewhat intermediate in colour between SOWERBY's fig. 77 and 127, being lighter coloured than the former, darker than the latter figure; that from Stat. 300, which may be bleached, is still lighter of colour than his fig. 127. The other quoted figures are much less characteristic for the Siboga-specimens.

23. *Terebra (Strioterebrum) areolata* Adams and Reeve.

ADAMS and REEVE. Zool. Voy. Samarang, p. 30, Pl. 10, fig. 23.
TRYON. Man. of Conch. Vol. VII, p. 22, Pl. 6, fig. 94.

Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion. 1 Spec.

The specimen from Stat. 204 is quite bleached and not perfectly identical in sculpture, so its determination is a little doubtful. Most monographers consider this shell as a synonym or slight variety of allied species, but DESHAYES considered it to be a valid species. The Siboga-specimens are in accordance with this view.

24. *Terebra (Strioterebrum) conspersa* Hinds.

HINDS. Proc. Zool. Soc. Lond. 1843, p. 151.
SOWERBY. Thes. Conchyl. Vol. I, p. 163, Pl. 44, fig. 74.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 127.
TRYON. Man. of Conch. Vol. VII, p. 24, Pl. 7, fig. 13.

Stat. 91. Muaras-reef, East coast of Borneo. Up to 54 M. Hard coralsand. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion. 1 Spec.
Stat. 248. Near Rumah Lusi, North-point of Tiur-island. Till 54 M. 1 Spec.

The specimens vary in the size of the brown stains.

25. *Terebra (Strioterebrum) plumbea* Quoy & Gaimard.

Quoy & Gaimard. Zool. Voy. Astrol., p. 470, Pl. 36, fig. 29, 30.
Kiener. Coq. Viv. Vol. VIII, Terebra, p. 36, Pl. 12, fig. 27.
Küster. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Terebra, p. 29, Pl. 6, fig. 11.
Sowerby. Thes. Conchyl. Vol. I, Terebra, p. 164, Pl. 44, fig. 70.
Reeve. Conch. Ic. Vol. XII, Terebra, fig. 111.
Tryon. Man. of Conch. Vol. VII, p. 37, Pl. 11, fig. 7.

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.

A very small specimen of somewhat obscure appearance, agreeing with the upper whorls of a specimen from Cebu.

26. *Terebra (Strioterebrum) tiurensis* n. sp. Pl. XXV, fig. 10.

Stat. 248. Near Ruma Lusi, North-point of Tiur-island. Till 54 M. 1 Spec.

Shell small, acicular, very shining, whitish, with violet apex, scattered reddish-brown spots, just below the subsutural band, in a few cases stretching, though more faintly, down over the whorls. Nuclear whorls, which are violet, as stated above, smooth, convex, about 4 in number, below at the suture with a keel; total number of whorls about 14, postnuclear ones slightly convex, with a deep suture; sculpture consisting of axial ribs, 19 or 20 on penultimate whorl, disappearing on last whorl, ribs and interstices with a deep subsutural groove, having the appearance of punctures in the interstices, for the rest the shell is smooth; last whorl rather regularly convex, contracted below. Aperture oblong, with an acute angle above, narrower at the sutural band, peristome thin, columellar margin short, ending with an oblique curved fold, with a trace of a second fold about halfway.

Alt. $14^1/_2$, lat. $3^1/_4$; apert. alt. 3, lat. $1^1/_4$ Mill.

I know no species to which this one is closely allied. It has some superficial resemblance with one of the specimens of *T. conspersa*, but the deep groove and shining surface, without other spirals makes it quite different.

27. *Terebra (Strioterebrum) crenifera* Deshayes var.

Deshayes. Proc. Zool. Soc. Lond. 1859, p. 298.

Stat. 159. 0° 59'.1 S., 129° 48'.8 E. 411 M. Coarse sand. 1 Spec.

The specimen differs from the original description, by the nearly entirely wanting spiral sculpture, the species seems to be rare and this may account for the circumstance that most authors unite it with other ones. I owe the identification to Mr. E. A. Smith, who was able to compare the Cumingian type.

28. *Terebra (Strioterebrum) circinata* Deshayes.

DESHAYES. Journ. de Conch. 1857, p. 99, Pl. 4, fig. 6, 7.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 47 *a* (*straminea* var.).
TRYON. Man. of Conch. Vol. VII, p. 28, Pl. 8, fig. 44 (*straminea* var.).

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 4. Djangkar (Java). 9 M. Coarse sand. 28 Spec.

I think REEVE's figure differs considerably from that of DESHAYES, which represents a smaller shell, the Siboga-specimens are still smaller. Perhaps they belong to DESHAYES' var. β.

29. *Terebra (Strioterebrum) straminea* Gray.

GRAY. Proc. Zool. Soc. Lond. 1834, p. 62.
SOWERBY. Thes. Conchyl. Vol. I, p. 169, Pl. 42, fig. 22, 23.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 47 *b*.
TRYON. Man. of Conch. Vol. VII, p. 28, Pl. 8, fig. 42, 43.

Stat. 58. Seba, Savu. Up to 27 M. Sand. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.

Both specimens are bleached, but perfectly agree in sculpture with typical ones.

30. *Terebra (Strioterebrum) tricolor* Sowerby.

SOWERBY. Cat. Tankerv. App. p. 24.
KIENER. Coq. Viv. Vol. VIII, Terebra, p. 24, Pl. 13, fig. 33 (*taeniolata*).
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Terebra, p. 10, Pl. 1, fig. 9 (*taeniolata*).
SOWERBY. Thes. Conchyl. Vol. I, p. 168, Pl. 44, fig. 82.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 57.
TRYON. Man. of Conch. Vol. VII, p. 27, Pl. 8, fig. 39.

Stat. 282. Between Nusa Besi and N.E.-point of Timor 27—54 M. Sand, coral and Lithothamnion. 1 Spec.

The Siboga-specimen is very light-coloured, nearly quite white, with 4 brown grooves on last whorl, instead of the three, figured by the quoted monographers; as I possess a specimen from the Andaman-isles, with even 6 grooves, of which 5 are brown, but which is otherwise typical, I think it is unnecessary to apply a varietal name, unless one would call them 3—4—6-*sulcata* and so on. The specimen scarcely seems to be bleached; the fourth groove of the Siboga-specimen is placed below the periphery, so that it is covered on the upper whorls. In the Andaman-specimen the colourless groove is placed between the two brown grooves, corresponding to those of the quoted figures, one has the same position as in the Siboga-specimen and the basal one in double, making 3 additional grooves.

31. *Terebra (Strioterebrum) triseriata* Gray.

GRAY. Proc. Zool. Soc. Lond. 1834, p. 61.
SOWERBY. Thes. Conchyl. Vol. I, p. 171, Pl. 45, fig. 119.

REEVE. Conch. Ic. Vol. XII, Terebra, fig. 52.
TRYON. Man. of Conch. Vol. VII, p. 30, Pl. 9, fig. 56, 57.

Stat. 162. Between Loslos and Broken-islands, West coast of Salawatti. 18 M. Coral and fine sand with clay and shells. 1 Spec.

The specimen is not very large but characteristic. This species is the type of DALL's Section *Triplostephanus*.

32. *Terebra (Strioterebrum) tricincta* Smith. Pl. XXV, fig. 11.

SMITH. Ann. Mag. Nat. Hist., Ser. 4, Vol. XIX, 1877, p. 225.

Stat. 71. Makassar and surroundings. 27—36 M. Mud, sand with mud, coral. 3 Spec.

The largest specimen is larger than SMITH's type, being nearly 14 Mill. though not complete. Another specimen of the typical length, 11 Mill., has served for figuring.

33. *Terebra (Strioterebrum) Archimedes* Deshayes. Pl. XXV, fig. 12.

DESHAYES. Proc. Zool. Soc. Lond. 1859, p. 314.

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.

REEVE and TRYON consider this species to be only a synonym of *T. funiculata* Hinds; as far as I can judge after one specimen of each, *Archimedes* has the subsutural lira less prominent, the number of lirae of each whorl is less, the lirae are more granular, the last whorl is considerably shorter, moreover the colour is much lighter. As this species seems to be unfigured, I have given a figure.

34. *Terebra (Strioterebrum) virgo* n. sp. Pl. XXV, fig. 13.

Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.

Shell elongately turreted, shining, white, upper postnuclear whorls cream-coloured. Whorls $14^1/_2$, of which $2^1/_2$ form a large, mamillate, smooth nucleus; postnuclear whorls at first rather straight, the last 8 concave; sculpture consisting on lower whorls of a conspicuous, crenulated, subsutural rib, accompanied by a narrower second one, separated by a strong groove, this second rib being likewise crenulated or beaded, concave part of whorls crossed by flat axial ribs and with remote spiral grooves, 3 in number, so that this concave part is 4-lirate, of these lirae the upper 2 are the largest. At all the lower whorls have 6 lirae, inclusive of the subsutural one. Last whorl short, with a larger lira below its angle, separated from upper part by a stronger groove and with some narrower lirae on the base. Aperture subquadrate, with a short, sharp sinus above, a short wide canal below; peristome blunt; columellar margin short, faintly bicostate, with an appressed layer of enamel.

Alt. 25, lat. $5^3/_4$; apert. alt. 5 (with canal), lat. $2^1/_2$ Mill.

This shell is quite different from the preceding one, by its more or less concave whorls, it is much less acicular than *Archimedes*, which it slightly resembles in some respects; the

whorls are much broader, consequently much less in number, *T. Archimedes* of the same lenght would have 24 whorls; the bulbous nucleus may also serve as a good distinctive character.

### Hastula Adams.

1. *Hastula (Hastula) matheroniana* Deshayes.

DESHAYES. Proc. Zool. Soc. Lond. 1859, p. 287.

Stat. 296. Near Noimini, South coast of Timor. 8—36 M. Sandy mud. 1 Spec.

REEVE considered this species at first as a synonym of *T. strigillata*, but afterwards in the „corrigenda" separates it. TRYON remained in doubt, but finally refers it to *strigillata*. Unfortunately the only specimen is not in sufficient condition for a figure, as not only the shell has two holes, but the aperture is severely damaged. I think it is sufficiently distinct by its size, acicular shape, sharper ribs and colour.

2. *Hastula (Impages) coerulescens* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. X, p. 245.
KIENER. Coq. Viv. Vol. VIII, Terebra, p. 17, Pl. 6; Pl. 7, fig. 12*a, b*.
KÜSTER. Martini-Chemn. Conch. Cab. Ed. II, Vol. V, Terebra, p. 10, Pl. 2, fig. 6.
SOWERBY. Thes. Conchyl. Vol. I, p. 159, Pl. 41, fig. 5, 6.
REEVE. Conch. Ic. Vol. XII, Terebra, fig. 26, *b, c*.
TRYON. Man. of Conch. Vol. VII, p. 30, Pl. 10, fig. 75.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 5 Spec.
Stat. 279. Roma-island. Reef. 2 Spec.

The Siboga-specimens agree with the quoted figures, those from Stat. 33 are quite white, with occasionally a few dark streaks, those from Stat. 279 are richly variegated with dark ash-coloured bands and streaks.

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## Fam. CONIDAE.

### Conus Linné.

After having made some trials to arrange the species of this genus in the known subgenera and sections, I find that authors are not at all agreeing in this respect, so much so that even one and the same species has been located in different sections, by the same author, in subsequent papers; under these circumstances I have followed TRYON, his monograph being the latest, which enumerates the species in a systematic order; his method, based on the views of WEINKAUFF, brings the species to natural groups; I have only made a few exceptions.

1. *Conus (Marmorei) marmoreus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 712, N$^0$ 250.
RUMPH. Amb. Rariteitkamer, p. 104, Pl. 32, fig. N.

REEVE. Conch. Ic. Vol. I, Conus, fig. 74.
KIENER. Coq. Viv. Vol. I, Conus, p. 4, Pl. 2, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, p. 2, Pl. 1, fig. 5.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 60, 156, Pl. 9, fig. 4; Pl. 18, fig. 3.
TRYON. Man. of Conch. Vol. VI, p. 7, Pl. 1, fig. 1.

Stat. 16. Bay of Kankamaraän, S. coast of Kangeang. Reef. 1 Spec.
Stat. 231. Amboina. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.

The specimens are typical, with regularly spread white spots, LINNÉ quotes also RUMPH's fig. N° 1, which belongs to the variety or species *bandanus* Hwass.

2. *Conus (Literati) millepunctatus* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. XI, p. 36.
REEVE. Conch. Ic. Vol. I, Conus, fig. 78.
KIENER. Coq. Viv. Vol. I, Conus, p. 61, Pl. 18, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 23, Pl. 7, fig. 151.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 72, 160, Pl. 11, fig. 2, 3.
TRYON. Man. of Conch. Vol. VI, p. 10, Pl. 2, fig. 19 (*literatus* var.).

Stat. 142. Laiwui, coast of Obi Major. 23 M. Mud. 1 Spec.

Though TRYON may be right in uniting this species with *C. literatus* Lin., it differs not only as he says (l. c.) by the spots being smaller and much more numerous and by the absence of the yellow bands, but the character by which I could separate the very numerous specimens I have seen, is that, mentioned by KIENER, that the whorls are spirally striate on the spire, which is not the case with *C. literatus*, where they are smooth.

3. *Conus (Literati) eburneus* Hwass.

HWASS. Enc. Meth. Vol. I, p. 640, Pl. 324, fig. 1.
REEVE. Conch. Ic. Vol. I, Conus, fig. 106*b*.
KIENER. Coq. Viv. Vol. I, Conus, p. 67, Pl. 17, fig. 2.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 24, Pl. 12, fig. 247—249.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 105, 176, Pl. 20, fig. 9.
TRYON. Man. of Conch. Vol. VI, p. 11, Pl. 2, fig. 24, 25.

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.

4. *Conus (Literati) tessellatus* Born.

BORN. Mus. Caes. Vindob. p. 151.
REEVE. Conch. Ic. Vol. I, Conus, fig. 163.
KIENER. Coq. Viv. Vol. I, Conus, p. 68, Pl. 17, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III. Conus, p. 24, Pl. 12, fig. 250, 251.

KÜSTER/WEINKAUFF, Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 78, 162, Pl. 13, fig. 1, 2.
TRYON. Man. of Conch. Vol. VI, p. 11, Pl. 2, fig. 26.

Stat. 240. Banda, 9—45 M. Black sand, coral, Lithothamnion. 1 Spec.

The specimen is small but characteristic.

5. *Conus (Literati) suturatus* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1843, p. 178.
REEVE. Conch. Ic. Vol. I, Conus, fig. 250.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 25, Pl. 12, fig. 256.
WEINKAUFF. Martini-Chemn. Conch. Cab, Ed. II, Vol. IV, Conus, p. 223, Pl. 36, fig. 9, 10.
TRYON. Man. of Conch. Vol. VI, p. 11, Pl. 2, fig. 29, 29*a*.

Stat. 164. 1°42'.5 S., 130°47'.5 E. Near West-New-Guinea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 184. Near Kampong Kelang, South coast of Manipa-island. 36 M. Coral, sand. 1 Spec.

The specimen from Stat. 184 is in very poor condition, and so agrees very well with REEVE's original figure of a worn shell.

6. *Conus (Literati) characteristicus* Chemnitz.

CHEMNITZ. Conch. Cab. Ed. I, Vol. XI, p. 54, Pl. 182, fig. 1760, 1761.
REEVE. Conch. Ic. Vol. I, Conus, fig. 167.
KIENER. Coq. Viv. Vol. I, Conus, p. 203, Pl. 42, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 26, Pl. 15, fig. 337, 338.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 85, 165, Pl. 14, fig. 5, 6.
TRYON. Man. of Conch. Vol. VI, p. 13, Pl. 3, fig. 38, 39.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.

This specimen fully agrees with the quoted descriptions and figures, it is nearly covered by a rather thick, velvety epidermis. REEVE, SOWERBY and KÜSTER give it the habitat „West-Indies", TRYON, West-Africa, West-Indies and Borneo, the latter locality from the label of a London dealer. FISCHER (Cat. Moll. Indo-Chine, 1891, p. 46) records it from the Gulf of Siam, after Morlet. The Siboga-specimen confirms its eastern habitat.

7. *Conus (Figulini) figulinus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 715, N° 267.
RUMPH. Amb. Rariteitkamer, p. 106, Pl. 31, fig. V.
REEVE. Conch. Ic. Vol. I, Conus, fig. 160.
KIENER. Coq. Viv. Vol. I, Conus, p. 76, Pl. 28, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 24, Pl. 11, fig. 242.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 80, 163, Pl. 13, fig. 4, 6.
TRYON. Man. of Conch. Vol. VI, p. 16, Pl. 4, fig. 57.

Stat. 169. Atjatuning, West coast of New-Guinea. Reef. 1 Spec.

Covered by a thin, fibrous epidermis.

8. *Conus (Figulini) quercinus* Hwass.

Hwass. Enc. Meth. p. 681, Pl. 332, fig. 6.
Reeve. Conch. Ic. Vol. I, Conus, fig. 148.
Kiener. Coq. Viv. Vol. I, Conus, p. 93, Pl. 32, fig. 1.
Sowerby. Thes. Conchyl. Vol. III, Conus, p. 24, Pl. 11, fig. 239, 240.
Küster/Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 82, Pl. 13, fig. 5.
Tryon. Man. of Conch. Vol. VI, p. 17, Pl. 4, fig. 59.

Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

In the specimen from Stat. 313 the shell has a somewhat strange appearance by the deviation of the last whorl, but else it is typical.

9. *Conus (Arenati) arenatus* Hwass.

Hwass. Enc. Meth. p. 621, Pl. 320, fig. 6.
Rumph. Amb. Rariteitkamer, p. 106, Pl. 33, fig. A. A.
Reeve. Conch. Ic. Vol. I, Conus, fig. 92.
Kiener. Coq. Viv. Vol. I, Conus, p. 38, Pl. 10, fig. 1, *1a*, *1b*.
Sowerby. Thes. Conchyl. Vol. III, p. 8, Pl. 2, fig. 17, 18.
Küster/Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 115, 179, Pl. 22, fig. 6, 7.
Tryon. Man. of Conch. Vol. VI, p. 18, Pl. 4, fig. 66.

Stat. 234. Nahalia-bay, Nusa-Laut-island. Reef. 1 Spec.

The specimen belongs to the form represented by the figures of Rumph, Kiener *1b* and Küster 6.

10. *Conus (Arenati) stercus muscarum* Linné.

Linné. Syst. Nat. Ed. X, p. 715, N° 269 (pars).
Rumph. Amb. Rariteitkamer, p. 106, Pl. 33, fig. Z.
Reeve. Conch. Ic. Vol. I, Conus, fig. 90.
Kiener. Coq. Viv. Vol. I, Conus, p. 206, Pl. 58, fig. 3.
Sowerby. Thes. Conchyl. Vol. III, p. 38, Pl. 15, fig. 347.
Küster/Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 108, 177, Pl. 21, fig. 1—3.
Tryon. Man. of Conch. Vol. VI, p. 19, Pl. 5, fig. 71.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

11. *Conus (Mures) roseus* Lamarck.

Lamarck. An. s. vert. Ed. II, Vol. XI, p. 32.
Reeve. Conch. Ic. Vol. I, Conus, fig. 186.
Kiener. Coq. Viv. Vol. I, Conus, p. 22, Pl. 9, fig. 3.
Sowerby. Thes. Conchyl. Vol. III, p. 8, Pl. 5, fig. 94, 95.
Weinkauff. Martini-Chemn. Conch. Cat. Ed. II, Vol. IV, p. 130, Pl. 25, fig. 8; Pl. 29, fig. 3, 4.
Tryon. Man. of Conch. Vol. VI, p. 20, Pl. 5, fig. 73 (*mus.* var.).

Stat. 301. Pepela-bay, East coast of Rotti-island. Reef. 1 Spec.

The authors quoted above, give as habitat of this species "West-Indies"; the Siboga-specimen, though slightly worn, belongs no doubt to it, I possess and have seen many specimens from the south coast of Java, from Amboina and Borneo. KIENER twice makes use of the name *roseus* in the plates of his monograph, on Pl. 9 and Pl. 107, fig. 4, but in the text this latter is named *C. rosaceus* Kiener; it has been named *C. Kieneri* by REEVE and has nothing to do with the species under consideration, which is allied to *C. mus*.

12. *Conus (Mures) hebraeus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 715, N° 268 (*ebraeus*).
RUMPH. Amb. Rariteitkamer, p. 106, Pl. 33, fig. B. B.
REEVE. Conch. Ic. Vol. I, Conus, fig. 104*b*.
KIENER. Coq. Viv. Vol. I, Conus, p. 45, Pl. 4, fig. 2.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 9, Pl. 3, fig. 56 (*ebraeus*).
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 68, 159, Pl. 10, fig. 10, 11; Pl. 23, fig. 1.
TRYON. Man. of Conch. Vol. VI, p. 20, Pl. 5, fig. 75.

Stat. 34. Labuan Pandan, Lombok. Coral reef. 3 Spec.
Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 81. Pulu Sebangkatan, Borneo-bank. Reef. 1 Spec.
Stat. 86. Dongala, Palos-bay, Celebes. 36 M. Fine grey mud. 1 Spec.
Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. 23—31 M. Sand. 1 Spec.
Stat. 131. Beo, Karakelang-islands. 13 M. Mud and sand. 2 Spec.
Stat. 277. Kulewatti-(Sollot-)bay, Dammer-island. Reef. 1 Spec.

The specimen from Stat. 277 has some tendency to belong to var. *vermicularis* by the confluence of some of the black spots, but it is nearer to the type; the fresh shells are covered with a thin, yellowish, slightly fibrous epidermis.

13. *Conus (Mures) sponsalis* Chemnitz.

CHEMNITZ. Conch. Cab. Ed. I, Vol. XI, p. 56, Pl. 182, fig. 1766, 1767.
REEVE. Conch. Ic. Vol. I, Conus, fig. 109.
KIENER. Coq. Viv. Vol. I, Conus, p. 48, Pl. 14, fig. 4.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 10, Pl. 6, fig. 133, 134.
KÜSTER/WEINKAUFF, Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 86, 165, Pl. 14, fig. 7, 8.
TRYON. Man. of Conch. Vol. VI, p. 23, Pl. 6, fig. 99 (*Ceylonensis* var.).

Stat. 34. Labuan Pandan, Lombok. Coral reef. 1 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.

TRYON has united many forms under *C. ceylonensis*, giving a nearly worldwide distribution to the species; the Siboga-specimens belong no doubt to *sponsalis*.

14. *Conus (Mures) coronatus* Dillwyn.

DILLWYN. Cat. Vol. I, p. 403.
REEVE. Conch. Ic. Vol. I, Conus, fig. 143 (*minimus*).

KIENER. Coq. Viv. Vol. I, Conus, p. 64, Pl. 14, fig. 1 (*minimus*).
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 9, Pl. 3, fig. 54, 55; Pl. 5, fig. 99, 111 (*minimus*).
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 131, Pl. 25, fig. 9—11; Pl. 28, fig. 5, 6.
TRYON. Man. of Conch. Vol. VI, p. 21, Pl. 5, fig. 84, 88 (*miliaris*).

Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 58. Seba, Savu. Reef. 1 Spec.
Stat. 86. Dongala, Palos-bay, Celebes. 36 M. Fine grey mud. 1 Spec.
Stat. 129. Near Kawio- and Kamboling-islands, Karkaralong-group. Reef. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Reef. 1 spec.
Stat. 152. Wunoh-bay, N.W. coast of Waigeu-island. Reef and 32 M. Lithothamnion bottom. 5 Spec.
Stat. 225. Near South-point of South-Lucipara-island. Reef. 1 Spec.
Stat. 296. Noimini, South coast of Timor. Reef. 1 spec.

Though very variable in colour and markings, the Siboga-specimens belong to the type, represented by the quoted figures.

var. *Aristophanes* Duclos?

SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 9, Pl. 4, fig. 81, 82.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 219, Pl. 31, fig. 3.
TRYON. Man. of Conch. Vol. VI, p. 22, Pl. 5, fig. 90.

Stat. 225. Near South-point of South-Lucipara-island. Reef. 1 Spec.

15. *Conus (Mures) musicus* Hwass.

HWASS. Enc. Meth. Vol. I, Pl. 332, fig. 4.
REEVE. Conch. Ic. Vol. I, Conus, fig. 113.
KIENER. Coq. Viv. Vol. I, Conus, p. 61, Pl. 13, fig. 6.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 11, Pl. 6, fig. 145—148.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 281, Pl. 48, fig. 6—9.
TRYON. Man. of Conch. Vol. VI, p. 11, Pl. 2, fig. 22, 23.

Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 213. South-island, near Saleyer. Reef. 1 Spec.

16. *Conus (Varii) varius* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 715, N° 270.
REEVE. Conch. Ic. Vol. I, Conus, fig. 58.
KIENER. Coq. Viv. Vol. I, Conus, p. 20, Pl. 7, fig. 3.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 7, Pl. 3, fig. 40—42.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 63, 157, Pl. 9, fig. 9.
TRYON. Man. of Conch. Vol. VI, p. 25, Pl. 6, fig. 8, 9.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

The specimen is an empty shell, with large red-brown patches.

17. *Conus (Varii) boeticus* Reeve var. *rivularis* Reeve.

REEVE. Conch. Ic. Vol. I, Conus, Suppl. Pl. 6, fig. 261.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 21, Pl. 5, fig. 90.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 256 (*boeticus* pars).
TRYON. Man. of Conch. Vol. VI, p. 26, Pl. 6, fig. 13.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

This variety is not only distinguished by its light colour, as WEINKAUFF states, but by its granules all over the body-whorl, as TRYON has rightly observed. The Siboga-specimen is an empty but characteristic shell.

18. *Conus (Varii) muriculatus* Sowerby.

SOWERBY. Conch. Ill. Pl. I, fig. 1.
REEVE. Conch. Ic. Vol. I, Conus, fig. 112.
KIENER. Coq. Viv. Vol. I, Conus, p. 52, Pl. 72, fig. 2.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 4, Pl. 5, fig. 89.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 254, Pl. 42, fig, 4, 5.
TRYON. Man. of Conch. Vol. VI, p. 26, Pl. 6, fig. 15.

Stat. 164. 1°42′.5 S., 130°47′.5 E. Near West-New-Guinea. 32 M. Sand, small stones and shells. 2 Spec.

The largest specimen which is covered with a rather thick, fibrous epidermis, has the uncommon length of about 40 Mill, against 21 in WEINKAUFF's Monograph, TRYON reports 1 inch. The other specimen, though smaller, is still more than 30 Mill. in length.

19. *Conus (Ammirales) ammiralis* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 713, N° 257.
RUMPH. Amb. Rariteitkamer, p. 108, Pl. 34, fig. B. C. D.
REEVE. Conch. Ic. Vol. I, Conus, fig. 11.
KIENER. Coq. Viv. Vol. I, Conus, p. 134, Pl. 21, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, p. 18, Pl. 10, fig. 225.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 23, 143, Pl. 3, fig. 5; Pl. 4, fig. 2—4; Pl. 17, fig. 8, 11, 12.
TRYON. Man. of Conch. Vol. VI, p. 29; Pl. 8, fig. 44.

Stat. 109. Pulu Tongkil, Sulu-archipelago. 13 M. Lithothamnion-bottom. 1 Spec.

The specimen is very fine, it belongs to the so-called variety with divided central band, represented by KIENER's fig. 1*a*, SOWERBY's fig. 225 and KÜSTER's fig. 5 and 10. Formerly a very rare species, of which the specimen represented by fig. C in RUMPH's Rariteitkamer (l. c.) could not be obtained for "500 gulden".

20. *Conus (Ammirales) floridulus* Adams & Reeve.

ADAMS & REEVE. Moll. Voy. Samarang. p. 18, Pl. 5, fig. 9.
REEVE. Conch. Ic. Vol. I, Conus, Suppl. Pl. 4, fig. 245.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 13, Pl. 5, fig. 97.

WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 355, Pl. 66, fig. 3.
TRYON. Man. of Conch. Vol. VI, p. 35, Pl. 10, fig. 78 (*voluminalis* var.).

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

Both specimens are small and rather bleached, especially that from Stat. 133, which is scarcely recognizable, they agree with REEVE's figure, much less so with those of SOWERBY, WEINKAUFF and TRYON, the latter two being rude copies of SOWERBY's figure.

21. *Conus (Ammirales) papillaris* Reeve.

REEVE. Conch. Ic. Vol. I, Conus, Suppl. Pl. 4, fig. 242.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 13, Pl. 16, fig. 377.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 357, Pl. 66, fig. 7.
TRYON. Man. of Conch. Vol. VI, p. 38, Pl. 11, fig. 8.

Stat. 51. Madura-bay, 69—91 M. Fine grey sand, coarse sand with shells. 1 Spec.
Stat. 95. 5°43′.5 N., 119°40′ E. Sulu-archipelago. 522 M. Stony bottom. 1 Spec.

The specimens are rather small, worn shells, consequently of somewhat doubtful identification.

22. *Conus (Ammirales) filicinctus* n. sp. Pl. XXV, fig. 1.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells 1 Spec.

Shell rather small, conical, with elevated spire and sharp upper angle, body-whorl slightly attenuated above and below and nearly imperceptibly in the centre. Whorls about 9, (nucleus wanting), gradate, upper ones indistinctly tubercular, with a few spiral striae, disappearing in lower whorls and close-set growth-striae, upper face of whorls slightly excavated, separated by an undulated suture, which is very inconspicuous by the gradation of the whorls; spire white with redbrown blotches. Colour of body-whorl whitish-brown, with irregular redbrown perpendicular clouds and numerous darker spiral lines, 21 in number, leaving a narrow upper zone and a larger submedian one nearly white, with a few scattered redbrown points, giving the impression of 3 other, strongly interrupted lines; base spotted with same colour, with about 7 spiral grooves. Aperture narrow, peristome broken, but will have been (according to growth-striae) straight, with a sinus at its upper part, columellar margin nearly straight.

Alt. $27^1/_2$, lat. 15; apert. alt. 23, lat. about $2^1/_2$ Mill.

Though this specimen is in no very splendid condition, it seems to be too characteristic to remain undescribed. In shape it resembles the broader specimens of *C. ammiralis*, but in colourmarkings I know no species in that or in allied groups, which could be compared with it. The number of whorls which may have been 10 to 12 and the different sculpture of the lower whorls, may justify the opinion, that the specimen is adult or nearly so.

23. *Conus (Capitanei) vexillum* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3397.
REEVE. Conch. Ic. Vol. I, Conus, fig. 3.

KIENER. Coq. Viv. Vol. I, Conus, p. 79, Pl. 34, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 27, Pl. 7, fig. 163.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 83, 163, Pl. 17, fig. 13.
TRYON. Man. of Conch. Vol. VI, p. 39, Pl. 11, fig. 12[a], 13, 14.

Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Shore. 1 Spec.

The specimen is very young and the characteristic colour-pattern of the adult shell is not yet developed.

24. *Conus (Capitanei) miles* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 713, N° 255.
RUMPH. Amb. Rariteitkamer, p. 106, Pl. 33, fig. W.
REEVE. Conch. Ic. Vol. I, Conus, fig. 9.
KIENER. Coq. Viv. Vol. I, Conus, p. 94, Pl. 38, fig. 2.
SOWERBY. Thes. Conchyl. Vol. III. Conus, p. 27, Pl. 7, fig. 157.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 82, 163, Pl. 13, fig. 11, 12.
TRYON. Man. of Conch. Vol. VI, p. 40, Pl. 11, fig. 16; Pl. 27, fig. 11.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 58. Seba, Savu. Reef. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Reef. 2 Spec.
Stat. 169. Atjatuning, West coast of New-Guinea. Reef. 1 Spec.
Stat. 240. Banda. Reef. 1 Spec.
Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

The fresh specimens have a rather thick, fibrous epidermis, with about a dozen of spiral rows of hairs, grouped in bundles from 2 to 5 or occasionally more.

25. *Conus (Capitanei) capitaneus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 713, N° 254.
RUMPH. Amb. Rariteitkamer, p. 106, Pl. 33, fig. X.
REEVE. Conch. Ic. Vol. I, Conus, fig. 54.
KIENER. Coq. Viv. Vol. I, Conus, p. 85, Pl. 20, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 27, Pl. 8, fig. 175, 176.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 7, 140, Pl. 13, fig. 8—10.
TRYON. Man. of Conch. Vol. VI, p. 40, Pl. 12, fig. 21, 22.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 Spec.
Stat. 58. Seba, Savu. Reef. 1 Spec.
Stat. 169. Atjatuning, West coast of New-Guinea. Reef. 1 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

The epidermis of this species is similar to that of the preceeding one, but not quite the same in the specimens from Stat. 169 and 58, the latter, being a half-grown shell, has almost 20 spiral rows of longer bristles, often bifid or even trifid near their top, in the other specimen they are scarce and entirely lacking near the base.

26. *Conus (Capitanei) rattus* Hwass var. *tahitensis* Hwass.

HWASS. Enc. Meth. p. 713, Pl. 7, fig. 338.
KIENER. Coq. Viv. Vol. I, Conus, p. 187, Pl. 66, fig. 4 (*taitensis*).
SOWERBY. Thes. Conch. Vol. III, Conus, p. 5, Pl. 2, fig. 26 (*tahitensis*).
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 183, Pl. 29; fig. 7, 8 *taitensis*).
TRYON. Man. of Conch. Vol. VI, p. 41, Pl. 12, fig. 26.

Stat. 78. Lumu-Lumu-shoal, Borneo-bank. Shore. 1 Spec.
Stat. 129. Kawio- and Kamboling-islands, Karkaralong-group. Reef. 1 Spec.
Stat. 250. Kilsuin, Kur-island. Reef. 1 Spec.

The specimen from Stat. 78 has a thin fibrous epidermis, with about 10 spiral rows of scattered, rather short bristles.

27. *Conus (Virgines) flavidus* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. XI, p. 45.
KIENER. Coq. Viv. Vol. I, Conus, p. 96, Pl. 26, fig. 4.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 23, Pl. 8, fig. 168.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 191, Pl. 28, fig. 7, 8.
TRYON. Man of Conch. Vol. VI, p. 44, Pl. 13, fig. 48.

Stat. 225. Near South-point of South-Lucipara-island. Reef. 2 Spec.

I have not quoted REEVE's fig. 207 of the Conch. Iconica, as his figure does not represent a typical specimen, but probably, judging after its less conical shape and conspicuous granules, it comes near to WEINKAUFF's *C. maltzanianus*, though it is not improbable that TRYON is right, in considering this latter to be merely a variety; one of the Siboga-specimens resembles it by its more reddish colour and more developed granules, but not in shape, being still quite conical. The epidermis is rather thin and fibrous.

28. *Conus (Virgines) lividus* Hwass.

HWASS. Enc. Meth. p. 630, Pl. 321, fig. 5.
REEVE. Conch. Ic. Vol. I, Conus, fig. 211.
KIENER. Coq. Viv. Vol. I, Conus, p. 29, Pl. 9, fig. 2.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 4, Pl. 2, fig. 27.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II. Vol. IV, Conus, p. 108, 176, Pl. 3, fig. 4; Pl. 21, fig. 4.
TRYON. Man. of Conch. Vol. VI, p. 45, Pl. 13, fig. 54.

Stat. 81. Pulu Sebangkatan, Borneo-bank. Reef. 1 Spec.
Stat. 243. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

Both specimens are young, that from Stat. 81 has a fibrous epidermis, with about 15 spiral rows of short bristles.

29. *Conus (Virgines) sugillatus* Reeve.

REEVE. Conch. Ic. Vol. I, Conus, fig. 247.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 4, Pl. 3, fig. 50.

WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 206, Pl. 32, fig. 9, 10.
TRYON. Man. of Conch. Vol. VI, p. 45, Pl. 13, fig. 56 (*lividus* var.).

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.

The specimens are young but easily recognizable; it may be that TRYON is right, that this form is only a variety of the preceding species.

30. *Conus (Dauci) lithoglyphus* Meuschen.

MEUSCHEN. Mus. Gevers. p. 350.
REEVE. Conch. Ic. Vol. I, Conus, fig. 20.
KIENER. Coq. Viv. Vol. I, Conus, p. 127, Pl. 29, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 23, Pl. 9, fig. 185—187 (*ermineus*).
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 93, 169, Pl. 6, fig. 5; Pl. 17, fig. 1, 2; Pl. 19, fig. 7; Pl. 29, fig. 5, 6.
TRYON. Man. of Conch. Vol. VI, p. 48, Pl. 14, fig. 74, 75.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.

Epidermis thin, yellowish, fibrous, with rather long bristles, from single ones to bundles of commonly 4, with rather large interspaces.

31. *Conus (Dauci) planorbis* Born.

BORN. Test. Mus. Caes. Vindob. p. 164, Pl. 7, fig. 13.
REEVE. Conch. Ic. Vol. I, Conus, fig. 197 (*senator*).
KIENER. Coq. Viv. Vol. I, Conus, p. 104, Pl. 27, fig. 1 (*senator*).
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 36, Pl. 20, fig. 491.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 143, Pl. 13, fig. 7; Pl. 26, fig. 3.
TRYON. Man. of Conch. Vol. VI, p. 50, Pl. 14, fig. 81.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 1 Spec.
Stat. 213. Saleyer. Up to 36 M. Mud and mud with sand. 1 Spec.
Stat. 322. South Tandjong Lajar. South coast of Bawean-island. 32 M. Coral. 1 Spec.

The specimen from Stat. 213 is nearly uniformly brownish-yellow, darker towards the base, distinguished by some authors as var. *senator*, the other specimens are young and rather bad.

32. *Conus (Dauci) lineatus* Chemnitz.

CHEMNITZ. Conch. Cab. Ed. I, Vol. X, p. 27, Pl. 138, fig. 1285.
REEVE. Conch. Ic. Vol. I, Conus, fig. 131.
KIENER. Coq. Viv. Vol. I, Conus, p. 107, Pl. 18, fig. 4.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 36, Pl. 10, fig. 218, 219.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 64, 157, Pl. 9, fig. 10.
TRYON. Man. of Conch. Vol. VI, p. 50, Pl. 14, fig. 85.

Stat. 99. North-Ubian. 16—23 M. Lithothamnion-bottom. 1 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. 22 M. Mud, coral and Lithothamnion. 2 Spec.

33. *Conus (Magi) magus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 716, N° 276.
RUMPH. Amb. Rariteitkamer, p. 105, Pl. 32, fig. Q.
REEVE. Conch. Ic. Vol. I, Conus, fig. 190.
KIENER. Coq. Viv. Vol. I, Conus, p. 283, Pl. 67, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 38, Pl. 21, fig. 508—12.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 36, 146, Pl. 6, fig. 1, 3; Pl. 15, fig. 3, 4; Pl, 19, fig. 5, 6.
TRYON. Man. of Conch. Vol. VI, p. 53, Pl. 15, fig. 3.

Stat. 234. Nahalia-bay, Nusa-Laut-island. Reef. 1 Spec.

var. *raphanus* Hwass.

HWASS. Enc. Meth. p. 722, Pl. 341, fig. 2.
REEVE. l. c. fig. 190 *a*.
KIENER. l. c. fig. 1 *a*.
SOWERBY. l. c. p. 36, Pl. 20, fig. 494.
KÜSTER. l. c. p. 13, Pl. 2, fig. 3.
TRYON. l. c. fig. 4.

Stat. 169. Atjatuning, West coast of New-Guinea. Reef. 1 Spec.
Stat. 172. Island Gisser. Reef. 1 Spec.

The specimens are distinguished by the simple character of their colour-markings.

34. *Conus (Magi) pertusus* Hwass.

HWASS. Enc. Meth. p. 686, Pl. 336, fig. 2.
REEVE. Conch. Ic. Vol. I, Conus, fig. 25.
KIENER. Coq. Viv. Vol. I, Conus, p. 84, Pl. 35, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 23, Pl. 13, fig. 273.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 319, Pl. 58, fig. 7.
TRYON. Man. of Conch. Vol. VI, p. 54, Pl. 16, fig. 15.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.
Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

Both specimens are intermediate between the type and the smooth var. *amabilis*, that from Stat. 234 is worn and comparatively smoother than it may have been when fresh, that from Stat. 315 is remarkable by its first being rather smooth but after having been broken, the shell has at once got the true *pertusus*-sculpture, with an irregular demarcation-line, in accordance with the fracture.

35. *Conus (Magi) lacteus* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. XI, p. 64.
REEVE. Conch. Ic. Vol. I, Conus, fig. 234.
KIENER. Coq. Viv. Vol. I, Conus, p. 268, Pl. 60, fig. 4.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 239, Pl. 40, fig. 1.
TRYON. Man. of Conch. Vol. VI, p. 57, Pl. 17, fig. 51 (*spectrum* var.).

Stat. 184. Near Kampong Kelang, South coast of Manipa-island. 36 M. Coral, sand. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

The specimen from Stat. 234 is quite typical, that from Stat. 184 is young, covered by a thin smooth epidermis, the grooves of the upper part of shell, though very faint, are still visible. SOWERBY has figured the allied *C. parius* for this species.

36. *Conus (Magi) radiatus* Gmelin.

GMELIN. Syst. Nat. Ed. XIII. p. 3386.
REEVE. Conch. Ic. Vol. I, Conus, fig. 217 (*Martinianus*).
KIENER. Coq. Viv. Vol. I, p. 276, Pl. 40, fig. 2 (*martinianus*).
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 35, Pl. 20, fig. 490.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 135, Pl. 26, fig. 9; Pl. 28, fig. 1, 2.
TRYON. Man. of Conch. Vol. VI, p. 60, Pl. 18, fig. 71.

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.
Stat. 213. Saleyer. Up to 36 M. Coralreefs, mud and mud with sand. 1 Spec.

Both specimens are covered by a rather thick, brown epidermis, velvety by numerous hairy spirals.

37. *Conus (Magi) ochroleucus* Gmelin.

GMELIN. Syst. Nat. Ed. XIII, p. 3391.
REEVE. Conch. Ic. Vol. I, Conus, fig. 138 (*praefectus*).
KIENER. Coq. Viv. Vol. I, Conus, p. 296, Pl. 41, fig. 3 (*praefectus*).
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 35, Pl. 20, fig. 487—489 (*fasciatus*).
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II. Vol. IV, Conus, p. 75 (*praefectus*), p. 167, Pl. 15. fig. 6.
TRYON. Man. of Conch. Vol. VI, p. 60, Pl. 18, fig. 75.

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.

Young but easily recognizable.

38. *Conus (Magi) parius* Reeve.

REEVE. Conch. Ic. Vol. I, Conus, fig. 235.
KIENER. Coq. Viv. Vol. I, Conus, p. 277, Pl. 60, fig. 3.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 34, Pl. 20, fig. 473 (*lacteus*).
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 150, Pl. 6, fig. 7.
TRYON. Man. of Conch. Vol. VI, p. 60, Pl. 18, fig. 72 (*radiatus* var.).

Stat. 231. Amboina. 40 M. Coralsand. 1 Spec.
Stat. 279. Rumah-Kuda-bay, Roma-island. 36 M. Mud and sand. 1 Spec.

This species has been considered to be merely a variety of *C. lacteus* and *C. radiatus*, from the former I could always distinguish it, by its smooth upper part of last whorl and brown upper whorls, from the latter by the convex upper part of the whorls, which is slightly excavated in each whorl in *radiatus* and is much more spirally striated there, moreover by its more white colour. The epidermis is dark brown and more or less hairy in spiral rows.

39. *Conus (Achatini) catus* Hwass.

HWASS. Enc. Meth. p. 707, Pl. 332, fig. 7.
REEVE. Conch. Ic. Vol. I, Conus, fig. 79.
KIENER. Coq. Viv. Vol. I, Conus, p. 185, Pl. 43, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 38, Pl. 13, fig. 277—280.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 27, 143, Pl. 3, fig. 6.
TRYON. Man. of Conch. Vol. VI, p. 63, Pl. 20, fig. 6, 7.

Stat. 225. South-point of South-Lucipara-island. Reef. 1 Spec.

40. *Conus (Achatini) nigropunctatus* Sowerby.

SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 38, Pl. 15, fig. 342.
REEVE. Conch. Ic. Vol. I, Conus, fig. 190, 193 (*Adansoni*).
KIENER. Coq. Viv. Vol. I, Conus, p. 246, Pl. 61. fig. 4 (*unicolor*).
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 250, Pl. 34, fig. 11, 12.
TRYON. Man. of Conch. Vol. VI, p. 64, Pl. 20, fig. 8, 9 (*catus* var.).

Stat. 79[b]. Pulu-Kabala-dua. Borneo-bank. Reef. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Reef. 3 Spec.
Stat. 193. Sanana-bay, East coast of Sula-Besi-island. Reef. 1 Spec.

I have followed WEINKAUFF's views (l. c.) on the synonymy of this species, which seem to be sufficiently acceptable.

41. *Conus (Asperi) mucronatus* Reeve.

REEVE. Conch. Ic. Vol. I, Conus, fig. 204.
KIENER. Coq. Viv. Vol. I, Conus, p. 216, Pl. 92, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 35, Pl. 20, fig. 481.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 351, Pl. 65, fig. 1, 3.
TRYON. Man. of Conch. Vol. VI, p. 72, Pl. 22, fig. 73, 74.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 22 M. Sandy mud. 1 Spec.

In small specimens the spiral ribs are less flattened and the grooves are more conspicuous.

var. *Sibogae* n. var. Pl. XXV, fig. 2.

Stat. 274. 5° 28′.2 S., 134° 53′.9 E. Aru-islands. 57 M. Sand and shells, stones. 1 Spec.

Shell with spiral lirae much more numerous, (35 at all), having in many places the character of being split by an intermediate groove; brown colour more intense, forming 3 zones of blotches, one row of smaller ones just below the shoulder, another of larger flames above the centre and a similar broader one near the base, the intermediate zones with spiral rows of brown points, on the most basal part the colourmarkings consist of larger points.

Alt. 26, lat. 13 Mill.

I have been in doubt, whether I should describe this shell as a new species or not. By

its vivid and elegant colourmarkings, reminding those of *C. planiliratus*, as figured by SOWERBY, I was a little misled, but its shape is exactly that of the middle-sized *C. mucronatus* of the Siboga-materials; these specimens vary in the development of the grooves, partly in accordance with age, the ventral side being mainly stronger grooved than the dorsal one. REEVE (l. c.) says: "varying remarkably in their general appearance; most of them are obsoletely coronated, and all have the grooves more or less developed". If more materials were present and the differences proved to be constant, this form might be described as a good species.

42. *Conus (Asperi) sulcatus* Hwass.

HWASS. Enc. Meth. p. 618, Pl. 321, fig. 6.
REEVE. Conch. Ic. Vol. I, Conus, fig. 99.
KIENER. Coq. Viv. Vol. I, Conus, p. 31, Pl. 6, fig. 2 (*costatus*).
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 12, Pl. 2, fig. 30.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 90 (*asper*), p. 167, Pl. 16, fig. 1—3.
TRYON. Man. of Conch. Vol. VI, p. 73, Pl. 23, fig. 79[a].

Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 1 Spec.
Stat. 318. 6° 36'.5 S., 114° 55'.5 E. Java-sea. 88 M. Fine, yellowish-grey mud. 2 Spec.

The variability of this well-known species, as far as concerns the sharpness of the spiral ridges, confirms my views on the var. *Sibogae* of the former species.

43. *Conus (Asperi) mindanus* Hwass var. β Reeve.

REEVE. Conch. Ic. Vol. I, Conus, fig. 115[b].
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 11, Pl. 5, fig. 86.

Stat. 164. 1° 42'.5 S., 130° 47'.5 E. Near West New-Guinea. 32 M. Sand, small stones and shells. 1 Spec.

Unfortunately the shell is quite bleached. As it is of interest to be certain about its identification, as much controversy has arisen about its true habitat, East-Indian or West-Indian, I asked the opinion of Mr. E. A. SMITH, who thinks I may be right; if this be so, the authors who doubt its East-Indian provenience, may not have possessed the true species (WEINKAUFF, TRYON).

44. *Conus (Asperi) Sowerbyi* Reeve.

REEVE. Conch. Ic. Vol. I, Suppl. emend. p. 2.
REEVE. Conch. Ic. Vol. I, Conus, fig. 77 *a* (*sinensis*).
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 12, Pl. 16, fig. 379.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 282, Pl. 49, fig. 1, 3.
TRYON. Man. of Conch. Vol. VI, p. 76, Pl. 24, fig. 99, 1.

Stat. 77. Borneo-bank. 59 M. Fine grey coralsand. 2 Spec.
Stat. 153. 0° 3'.8 N., 130° 24'.3 E. Bougainville-strait. 141 M. Fine and coarse sand with dead shells. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 2 Spec.
Stat. 260. Near Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 318. 6° 36'.5 S., 114° 55'.5 E. Java-Sea. 88 M. Fine yellowish-grey mud. 1 Spec.

SMITH (Ann. and Mag. Nat. Hist. Ser. 7, Vol. XIII, 1904, p. 454) has recorded this species from the Coromandel coast, in 41 fath.; else the monographs give more remote localities, (China, Feejee-islands).

45. *Conus (Asperi) turriculatus* Sowerby.

SOWERBY. Thes. Conchyl. Vol. III, Conus, Suppl. I, p. 328, Pl. 27, fig. 643, 644.
KIENER. Coq. Viv. Vol. I, Conus, p. 155, Pl. 72, fig. 1 (*acutangulus*)).
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 377, Pl. 69. fig. 10, 11.
TRYON. Man. of Conch. Vol. VI, p. 74, 75, Pl. 23, fig. 89 (*cancellatus* jun.).
SMITH. Zool. Coll. "Alert", p. 487.

Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 204. Between islands of Wowoni and Buton. 75—94 M. Sand with dead shells. 2 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.
Stat. 301. Pepela-bay, East coast of Rotti-island. 22 M. Mud, coral and Lithothamnion. 1 Spec.

I have followed the suggestions of SMITH, l. c. and Ann. and Mag. Nat. Hist. Ser. 6, Vol. XIV, 1894, p. 160, concerning the synonymy of this species. The Siboga-specimens are coronated.

46. *Conus (Asperi) aculeiformis* Reeve.

REEVE. Conch. Ic. Vol. I, Conus, fig. 240*b*.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 12, Pl. 16, fig. 370.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 258, Pl. 43, fig. 2, 3.
TRYON. Man. of Conch. Vol. VI, p. 75, Pl. 23, fig. 90.

Stat. 51. Madura-bay. 69—91. M. Fine grey sand, coarse sand with shells. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 2 Spec.
Stat. 204. Between islands of Wowoni and Buton, 75—94 M. Sand with dead shells. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

TRYON unites with this species a multitude of more or less allied, elongated *Coni*, but SMITH, (Ann. and Mag. Nat. Hist. Ser. 7, Vol. XIII, 1904, p. 454, 455), admits a large amount of variability, without falling in that extreme.

47. *Conus (Asperi) delicatus* n. sp. Pl. XXV, fig. 3.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells. 1 Spec.

Shell elongately fusiform, with high spire, smooth, shining, yellowish-white, with yellow-brown flames, formed by series of quadrangular blotches. Whorls 8, of which about $3^1/_2$ (upper one not intact) form a quite smooth, convexly-whorled nucleus, subsequent whorls angular, first with 3, lower on with 2 spiral grooves, slightly coronated in upper post-nuclear whorls, the grooves on lower whorls punctured, space between the deep suture and upper groove, with perpendicular remote riblets, that between lower groove and suture, with very oblique striae; infra-angular part of last worl in its upper part scarcely grooved, but with a few spiral rows of punctures,

transformed in distinctly punctured grooves towards the median and on the basal part, 28 at all; last whorl contracted towards the base, its outline being concave. The brown colour on the last whorl, forms median and basal interrupted bands, on the spire it is arranged in regular blotches. Aperture narrow, angular above.

Alt. $18^1/_2$, lat. 6 Mill.

Though the specimen is evidently young and allied to the preceding species, I could not unite it, as the particulars of sculpture of the considerably lower spire differ too much from that of *C. aculeiformis*, the whorls being much more prominent at the suture, with quite different sculpture, the shell is much less grooved and more shining, the colour, though perhaps a little faded, seems to be much lighter. I had sent it to Mr. E. A. SMITH, who did not find it identical with any form of *C. aculeiformis*.

48. *Conus (Asperi) elegans* n. sp. Pl. XXV, fig. 4.

Stat. 153. 0° 3'.8 N., 130° 24'.3 E. Bougainville-strait. 141 M. Fine and coarse sand with dead shells. 2 Spec.

Shell elongately fusiform, with high spire, whitish with redbrown flames, forming two interrupted bands, one about the median part, the second near the base, spire with flamelike blotches of the same colour. Whorls 11 or 12, of which about 3 form a smooth nucleus, with convex whorls; subsequent whorls carinated, the keel occupying in the upper whorls the centre in the lower ones the base of each whorl, in the upper ones it is elegantly beaded, these beads becoming obscure lower on, the angle of last whorl being nearly plain, the upper face of lower whorls is slightly excavated, with about 5 spiral lirae in the excavation, crossed by strongly curved riblets; body whorl grooved all over, with about 30 grooves below the angle, the grooves narrower than the intermediate lirae on the upper part, becoming larger than the lirae near and leaving only threadlike spirals on the base; last whorl attenuated towards the base. The grooves are coarsely punctured, the lirae with fine axial striae. Aperture long, narrow, with oblique upper part of peristome.

Alt. 21, lat. $7^1/_2$; apert. alt. $14^3/_4$ Mill.

These specimens have the appearance of being not full-grown, but the sculpture of the spire is quite different from that of the preceding and other allied species.

49. *Conus (Asperi) vimineus* Reeve.

REEVE. Conch. Ic. Vol. I. Conus, Suppl. Pl. 7, fig. 269.
SOWERBY. Thes. Conchyl, Vol. III, Conus, p. 13, Pl. 16, fig. 357.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 377, Pl. 69, fig. 9 (*vimiceus*).
TRYON. Man. of Conch. Vol. VI, p. 75, Pl. 23, fig. 91 (*aculeiformis* var.).

Stat. 207. Buton-strait. 148 M. Grey mud. 1 Spec.

One of the species united by TRYON in his *aculeiformis*-muddle; characterized by its fine cancellated sculpture.

50. *Conus (Asperi) insculptus* Kiener.

KIENER. Coq. Viv. Vol. I, Conus, p. 309, Pl. 99, fig. 2,
REEVE. Conch. Ic. Vol. I, Conus, Suppl. Pl. 7, fig. 267.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 12, Pl. 16, fig. 363.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 354, Pl. 65, fig. 4, 5.
TRYON. Man. of Conch. Vol. VI, p. 75, Pl. 23, fig. 93 (*aculeiformis* pars).

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 95. 5°43'.5 N., 119°40' E. Sulu-archipelago. 522 M. Stony bottom. 2 Spec.
Stat. 260. Near Northpoint of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 2 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 1 Spec.
Stat. 319. 6°16'.5 S., 114°37' E. 82 M. Java-sea. Fine yellowish-grey. mud. 1 Spec.

The specimens are dead shells, not very characteristic; the species has been thrown together with *C. aculeiformis* by TRYON.

51. *Conus (Terebri) glans* Hwass.

HWASS. Enc. Meth. p. 725, Pl. 342, fig. 7.
RUMPH. Amb. Rariteitkamer, p. 106, Pl. 33, fig. D. D.
REEVE. Conch. Ic. Vol. I, Conus, fig. 145[b].
KIENER. Coq. Viv. Vol. I, Conus, p. 300, Pl. 80, fig. 1*a*.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 46, Pl. 22, fig. 530.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 46, 151, Pl. 7, fig. 5.
TRYON. Man. of Conch. Vol. VI, p. 79, Pl. 25, fig. 26.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 3 Spec.

The specimens belong to the short, granular form, more especially represented by the quoted figures.

52. *Conus (Terebri) terebra* Born.

BORN. Test. Mus. Caes. Vindob. p. 162.
REEVE. Conch. Ic. Vol. I, Conus, fig. 38 (*terebellum*).
KIENER. Coq. Viv. Vol. I, Conus, p. 208, Pl. 34, fig. 2.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 46, Pl. 23, fig. 559.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 87, 166, Pl. 15, fig. 1.
TRYON. Man. of Conch. Vol. VI, p. 80, Pl. 25, fig. 31.

Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 spec.

The specimen is young, covered by a rather dark brown, fibrous epidermis, but easily recognizable.

53. *Conus (Terebri) nussatella* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 716, N° 273.
RUMPH. Amb. Rariteitkamer, p. 106, Pl. 33, fig. E. E.
REEVE. Conch. Ic. Vol. I, Conus, fig. 56.
KIENER. Coq. Viv. Vol. I, Conus, p. 299, Pl. 53, fig. 2.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 45, Pl. 23, fig. 553, 554.

KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 43, 151, Pl. 7, fig. 3.
TRYON. Man. of Conch. Vol. VI, p. 80, Pl. 25, fig. 35.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

54. *Conus (Terebri) clavus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 716, N° 272.
REEVE. Conch. Ic. Vol. I, Conus, p. 194.
KIENER. Coq. Viv. Vol. I, Conus. p. 321, Pl. 87, fig. 2.
SOWERBY. Thes. Conchyl. Vol. III, Conus. p. 45, Pl. 23, fig. 561.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 47, 152, Pl. 7, fig. 6; Pl. 15, fig. 2.
TRYON. Man. of Conch. Vol. VI, p. 81, Pl. 25, fig. 37, 38.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

As TRYON observes, this species is allied to the Section *Texti* by its colour-pattern.

55. *Conus (Terebri) circumcisus* Born.

BORN. Test. Mus. Caes. Vindob. p. 163.
REEVE. Conch. Ic. Vol. I, Conus, fig. 13 (*dux*).
KIENER. Coq. Viv. Vol. I, Conus, p. 292, Pl. 62, fig. 1 (*dux*).
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 45, Pl. 23 and Frontispiece, fig. 562.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 12 (*dux*), p. 141, Pl. 2, fig. 2; Pl. 3, fig. 2; Pl. 15, fig. 5.
TRYON. Man. of Conch. Vol. VI, p. 83, Pl. 25, fig. 39, 40.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

56. *Conus (Tulipae) striatus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 716, N° 277.
RUMPH. Amb. Rariteitkamer, p. 103, Pl. 31, fig. F.
REEVE. Conch. Ic. Vol. I, Conus, fig. 179.
KIENER. Coq. Viv. Vol. I, Conus, p. 280. Pl. 47, fig. 1, 1ª.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 39, Pl. 23, fig. 557.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 121, 181, Pl. 23, fig. 6—8.
TRYON. Man. of Conch. Vol. VI, p. 85, Pl. 26, fig. 67.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 225. South-point of South Lucipara-island. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

57. *Conus (Tulipae) tulipa* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 717, N° 282.
REEVE. Conch. Ic. Vol. I, Conus, fig. 128.
KIENER. Coq. Viv. Vol. I, Conus. p. 346, Pl. 12, fig. 2.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 40, Pl. 22, fig. 551, 552.

KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 120, 180, Pl. 23 fig. 2, 3; Pl. 21, fig. 8, 9.
TRYON. Man. of Conch. Vol. VI, p. 87, Pl. 28, fig. 80, 81.

Stat. 131. Beo, Karakelang-islands. 15 M. Mud and sand. 1 Spec.

The epidermis of this species is very fine, rather thin, fibrous, with 7 spiral rows of tufts of flat spines at rather large intervals.

58. *Conus (Tulipae) obscurus* Reeve.

REEVE. Conch. Ic. Vol. I, Conus, fig. 82.
KIENER. Coq. Viv. Vol. I, Conus, p. 347, Pl. 68, fig. 2.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 40, Pl. 22. fig. 526.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 322, Pl. 59, fig. 7, 8.
TRYON. Man. of Conch. Vol. VI. p. 88, Pl. 28, fig. 83 (*violaceus* pars).

Stat. 79b. Pulu Kabala-dua, Borneo-bank. Reef. 1 Spec.

59. *Conus (Tulipae) geographus* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 718, N° 283.
RUMPH. Amb. Rariteitkamer, p. 103, Pl. 31, fig. G.
REEVE. Conch. Ic. Vol. I, Conus, fig. 130.
KIENER. Coq. Viv. Vol. I, Conus, p. 345, Pl. 12, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 40, Pl. 23, fig. 560.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 111, 177, Pl. 21, fig. 7.
TRYON. Man. of Conch. Vol. VI, p. 88, Pl. 28, fig. 84.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

60. *Conus (Texti) textile* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 717, N° 278.
RUMPH. Amb. Rariteitkamer, p. 105, Pl. 32, fig. O. P.
REEVE. Conch. Ic. Vol. I, Conus, fig. 209.
KIENER. Coq. Viv. Vol. I, Conus, p. 328, Pl. 90, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 41, Pl. 23, fig. 567.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 51, 154. Pl. 7, fig. 10; Pl. 8, fig. 4—6.
TRYON. Man. of Conch. Vol. VI, p. 89, Pl. 29, fig. 92, 93.

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

Of this and the preceding two species only empty shells of the well-known typical form have been collected.

61. *Conus (Texti) legatus* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. XI, p. 123.
REEVE. Conch. Ic. Vol. I, Conus, fig. 85.
KIENER. Coq. Viv. Vol. I, Conus, p. 323. Pl. 89, fig. 3.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 41, Pl. 23, fig. 566.

WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 237, Pl. 39, fig. 6.
TRYON. Man. of Conch. Vol. VI, p. 90, Pl. 30, fig. 5 (*textile* var.).

Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

The specimen is small but characteristic, and like SOWERBY (l. c.) says, easily recognized by its roseate hue.

62. *Conus (Texti) episcopus* Hwass.

HWASS. Enc. Meth. p. 748, Pl. 345, fig. 2.
REEVE. Conch. Ic. Vol. I, Conus, fig. 189.
KIENER. Coq. Viv. Vol. I, Conus, p. 319, Pl. 91, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 44, Pl. 24, fig. 596—598.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 48, 152, Pl. 35, fig. 1—3.
TRYON. Man. of Conch. Vol. VI, p. 93, Pl. 31, fig. 23, 24 (*omaria* pars).

Stat. 133. Lirung, Salibabu-island. Reef. 2 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 2 Spec.
Stat. 282. Between Nusa Besi and the N.E.-point of Timor. Reef. 1 Spec.

The specimens differ in shape and colourmarkings, but agree in the characteristic spire.

63. *Conus (Texti) omaria* Hwass.

HWASS. Enc. Meth. p. 714, Pl. 339, fig. 3.
REEVE. Conch. Ic. Vol. I, Conus, fig. 177.
KIENER. Coq. Viv. Vol. I, Conus, p. 342, Pl. 79, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 44, Pl. 24, fig. 594, 595.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, p. 54, 154, Pl. 8, fig. 7.
TRYON. Man. of Conch. Vol. VI, p. 92, Pl. 31, fig. 19.

Stat. 60. Haingsisi, Samau-island near Timor. Reef. 1 Spec.

64. *Conus (Texti) canonicus* Hwass.

HWASS. Enc. Meth. p. 749, Pl. 345, fig. 5.
RUMPH. Amb. Rariteitkamer, p. 105, Pl. 32, fig. O.
REEVE. Conch. Ic. Vol. I, Conus, fig. 165.
KIENER. Coq. Viv. Vol. I, Conus, p. 335, Pl. 95, fig. 1.
SOWERBY. Thes. Conchyl. Vol. III, Conus, p. 42, Pl. 23, fig. 568.
KÜSTER/WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Conus, p. 58 (*archiepiscopus* var.) p. 299, Pl. 53, fig. 7—9.
TRYON. Man. of Conch. Vol. VI, p. 90, Pl. 30, fig. 2 (textile var. *archiepiscopus* pars).

Stat. 133. Lirung, Salibabu-island. Reef. 1 Spec.
Stat. 234. Nalahia-bay, Nusa-Laut-island. Reef. 1 Spec.

This species and some of the preceding ones, have been considered by many authors to be only varieties of each other, but as I could easily separate the few specimens, I have not followed their views.

65. *Conus (Texti) aureus* Hwass?

Hwass. Enc. Meth. p. 742, Pl. 346, fig. 1.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.

The specimen is very young and bad, however the spire agrees with that of full-grown ones, so I may record it with doubt, but have not quoted the different authors, as of course none of their figures agrees with the specimen of 15 Mill.

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The Siboga-collection contains moreover some specimens of *Conus*, belonging to various sections, but they are too bad or too young for identification, so I have omitted them.

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Fam. Pleurotomidae.

**Pleurotoma** Lamarck.

1. *Pleurotoma babylonia* Linné.

Linné. Syst. Nat. Ed. X, p. 753, N° 479.
Rumph. Amb. Rariteitkamer, p. 96, Pl. 29, fig. L.
Kiener. Coq. Viv. Vol. IV, Pleurotoma, p. 4, Pl. 1, fig. 1.
Reeve. Conch. Ic. Vol. I, Pleurotoma, fig. 5.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 10, Pl. A, fig. 8; Pl. 1 fig. 4, 5.
Tryon. Man. of Conch. Vol. VI, p. 162, Pl. 1, fig. A—C, fig. 1.

Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.

The specimen is uncommonly large, more than 100 Mill. in length, though the apex is not complete, with complete spire it certainly should have reached 105 Mill. and so considerably surpassed the measurements of Weinkauff's and Tryon's specimens.

2. *Pleurotoma Garnonsi* Reeve.

Reeve. Conch. Ic. Vol. I, Pleurotoma, fig. 4.
Kiener. Coq. Viv. Vol. IV, Pleurotoma, p. 5, Pl. 1, fig. 2 (*babylonia* var.).
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 12, Pl. 2, fig. 1—4.
Tryon. Man. of Conch. Vol. VI, p. 163, Pl. 2, fig. 5.

Stat. 162. Between Loslos and Broken-islands, West coast of Salawatti. 18 M. Coarse and fine sand with clay and shells. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion. 2 Spec.

The specimen from Stat. 162 has lost its lower whorls and is a little doubtful, however the sculpture and dark spots agree with those of upper whorls of complete specimens.

3. *Pleurotoma crispa* Lamarck.

Lamarck. An. s. vert. Ed. II, Vol. IX, p. 353.
Reeve. Conch. Ic. Vol. I, Pleurotoma, fig. 11.

WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 9, Pl. 1, fig. 1, 2.
TRYON. Man. of Conch. Vol. VI, p. 163, Pl. 1, fig. 6.

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

WEINKAUFF and TRYON are in doubt about the validity of this species and consider it to be merely a variety (WEINKAUFF) or a younger state (TRYON) of *Pl. grandis*; as the name *crispa* has priority and the Siboga-specimen belongs no doubt to that form, it is at all events safe to apply this name.

4. *Pleurotoma tigrina* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 352.
KIENER. Coq. Viv. Vol. IV, Pleurotoma, p. 10, Pl. 8, fig. 1.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 3.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 13, Pl. 2, fig. 5—7.
TRYON. Man. of Conch. Vol. VI, p. 164, Pl. 2, fig. 10.

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.
Stat. 99. North-Ubian. 16—23 M. Lithothamnion-bottom. 1 Spec.
Stat. 164. 1°42′.5 S., 130°47′.5 E. Near West New-Guinea. 32 M. Sand, small stones and shells. 1 Spec.
Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion. 4 Spec.
Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 6 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

Rather variable in the dark spots, but otherwise the specimens vary only in size, according to their age.

5. *Pleurotoma marmorata* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 352.
KIENER. Coq. Viv. Vol. IV, Pleurotoma, p. 9, Pl. 6, fig. 4.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 21 (*marmorata*), fig. 139 (*hastula*).
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, Pl. 3, fig. 4.
TRYON. Man. of Conch. Vol. VI, p. 165, Pl. 2, fig. 16 (*marmorata*), fig. 17 (*hastula*).

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 4 Spec.
Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.
Stat. 51. Madura-bay. 69—91. M. Fine grey sand, coarse sand with shells and stones. 3 Spec.
Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 2 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 2 Spec.
Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud, and hard sand. 3 Spec.
Stat. 169. Near Atjatuning, West coast of New-Guinea, 57 M. Mud, 1 Spec.
Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait. 75—94 M. Sand with dead shells, 1 Spec.
Stat. 206. Buton-strait. 51 M. Fine green mud. 1 Spec.
Stat. 231. Amboina. 40 M. Coralsand. 4 Spec.
Stat. 260. Near Nuhu Jaan, Kei-islands. 27 M. Mud. 3 Spec.
Stat. 306. 8°27′ S., 122°54′.5 E. Savu-sea. 247 M. Sandy mud. 2 Spec.
Stat. 318. 6°36′.5 S., 114°55′.5 E. Java-sea. 88 M. Fine, yellowish-grey mud. 1 Spec.
Stat. 320. 6°5′ S., 114°7 E. Java-sea. 82 M. Fine grey mud. 1 Spec.
Stat. ? 1 Spec.

The specimens, as usual, vary much in colour-pattern, less so in shape and sculpture, however the specimens from Stat. 306 are considerably different by their much less prominent keel, especially in the lower whorls, where it is double; these specimens may belong or come very near to the variety mentioned by SMITH from the Arabian sea, off Gujerat (Ann. and Mag. Nat. Hist. Ser. 6, Vol. XVI, 1895, p. 263). In the upper whorls the difference is less prominent.

6. *Pleurotoma (Hemipleurotoma) cingulifera* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 350.
KIENER. Coq. Viv. Vol. IV, Pleurotoma, p. 17, Pl. 17, fig. 1.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 1.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 13, Pl. 2, fig. 8, 9; Pl. 4, fig. 8.
TRYON. Man. of Conch. Vol. VI, p. 166, Pl. 3, fig. 23.

Stat. 89. Pulu Kaniungan ketjil. Reef. 1 Spec.

The only specimen, without columellar margin, appears to have been inhabited by a hermit-crab.

7. *Pleurotoma (Hemipleurotoma) cryptorhaphe* Sowerby.

SOWERBY. Cat. Tankerv. Suppl. p. 14, N$^0$ 1503.
KIENER. Coq. Viv. Vol. IV, Pleurotoma, p. 12, Pl. 7, fig. 1 (*Woodii*).
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 7.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 20, Pl. 4, fig. 4—7.
TRYON. Man. of Conch. Vol. VI, p. 168, Pl. 3, fig. 30, 31.

Stat. 99. North-Ubian, 16—23 M. Lithothamnion-bottom. 1 Spec.

8. *Pleurotoma (Hemipleurotoma) jubata* Hinds.

HINDS. Proc. Zool. Soc. Lond. 1843, p. 37.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 52.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, p. 92, Pl. 20, fig. 1, 3.
TRYON. Man. of Conch. Vol. VI, p. 171, Pl. 4, fig. 46.

Stat. 204. Between islands of Wowoni and Buton, Northern entrance of Buton-strait, 75—94 M. Sand with dead shells. 1 Spec.

The only specimen is a bleached shell.

9. *Pleurotoma (Hemipleurotoma) acutigemmata* Smith.

SMITH. Ann. and Mag. Nat. Hist. Ser. 4. Vol. XIX, 1877, p. 489.
TRYON. Man. of Conch. Vol. VI, p. 171 (*jubata* pars).
SMITH. Ann. and Mag. Nat. Hist. Ser. 7, Vol. XIII, 1904, p. 457.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Near West-New-Guinea. Sand, small stones and shells. 3 Spec.
Stat. 285. Near South coast of Timor. 34 M. Limit between mud and coral, Lithothamnion. 4 Spec.

The specimen from Stat. 47 is rather small, only 12½ Mill. (SMITH's type 22 Mill.) but it agrees very well with the description, the gemmules are well developed; in the other specimens,

one of which reaches a length of 17 Mill., the gemmate keel is from finely gemmate to nearly smooth in lower whorls, and may approach the specimens mentioned by SMITH in 1904 (l. c.) as var. *minor*, in the upper postnuclear whorls the gemmules are more constant. The nuclear whorls, about 4 in number, are at first smooth, then over a larger or smaller part costulate, with more or less conspicuous traces of a narrow, undulated keel, just above the sutures (this nucleus remembers the section *Gemmula*). The specimens vary slightly in colour, some of them being lighter, I think only in part by being bleached.

10. *Pleurotoma (Hemipleurotoma) violacea* Hinds.

HINDS. Voy. "Sulphur", Moll., p. 16, Pl. 5, fig. 8.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 186.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, p. 30, Pl. 6, fig, 7, 9.
TRYON. Man. of Conch. Vol. VI, p. 169, Pl. 4, fig. 42.

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 3 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 5 Spec.
Stat. 58. Seba, Savu. Up to 27 M. Sand. 1 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 2 Spec.
Stat. 95. 5°43′.5 N., 119°40′ E. Sulu-archipelago. 522 M. 1 Spec.
Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand very fine. 4 Spec.
Stat. 231. Amboina, 54 M. Coralsand. 1 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. Lithothamnion. 1 Spec.

The specimen from Stat. 58 has on the top of the lirae a fine brown line; this specimen is uncommonly well preserved, it may be that the species in all its splendour, will be always marked in the same manner, but that this colour is commonly rubbed off. The specimen from Stat. 95, from the exceptional depth of 522 M. is a young worn shell and may not have lived at this depth.

11. *Pleurotoma (Hemipleurotoma) vertebrata* Smith.

SMITH. Ann. and Mag. Nat. Hist. Ser. 4, Vol. XV, 1875, p. 416.
SMITH. Proc. Zool. Soc. Lond. 1879, p. 186, Pl. 19, fig. 6, 6*a*.
TRYON. Man. of Conch. Vol. VI, p. 170; Pl. 3, fig. 29, 29*a* (*violacea* pars?).

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells, 1 Spec.

The specimen is small, about 6 Mill.; it probably would be broader, even than SMITH's fig. 6, if adult; the species has been considered by many authors as synonymous with or as a variety of *P. violacea* Hinds, the Siboga-specimen, which has been identified by its author, seems to differ sufficiently from young specimens of *violacea*, being much less slender, even though it appears to be slightly variable in this respect. The sculpture appears also to differ considerably, but the only specimen is too small, to be fit for close comparison.

12. *Pleurotoma (Hemipleurotoma)* sp.

Stat. 260. Near South point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.

This specimen is probably young and certainly too bad for description, it belongs to the same alliance as the two preceding species.

13. *Pleurotoma (Gemmula) fusca* Hombron & Jacquinot.

HOMBRON & JACQUINOT. Voy. au pole Sud, Vol. V, p. 111, pl. 25, fig. 19, 20.
SMITH. Proc. Zool. Soc. Lond. 1879, p. 186.
TRYON. Man. of Conch. Vol. VI, p. 173, Pl. 4, fig. 53.
SMITH. Ann. and Mag. Nat. Hist. Ser. 7, Vol. XIII, 1904, p. 456.

Stat. 4. Near Djangkar (Java). 9 M. Coarse sand. 3 Spec.
Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 4 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 5 Spec.
Stat. 53. Bay of Nangamessi, Sumba. Up to 36 M. Coralsand. 1 spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 95. 5° 43′.5 N., 119° 40′ E. Sulu-archipelago, 522 M. Stony bottom. 2 Spec.
Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coral botton. 3 Spec.
Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 5 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 6 Spec.
Stat. 139. 0° 11′ S., 127° 25′ E. Near Batjan. 397 M. Mud, stones and coral. 1 Spec.
Stat. 156. 0° 29′.2 S., 130° 5′.3 E. Near Waigeu. 469 M. Coarse sand and broken shells. 1 Spec.
Stat. 159. 0° 59′.1 S., 129° 48′.8 E. Halmahera-sea. 411 M. 2 Spec.
Stat. 164. 1° 42′.5 S., 130° 47′.5 E. Near west New-Guinea. 32 M. 4 Spec.
Stat. 174. Waru-bay, north coast of Ceram. 18 M. Mud. 2 Spec.
Stat. 213. Saleyer. Up to 36 M. Coralreefs, Mud and mud with sand. 1 Spec.
Stat. 260. Near North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 2 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 5 Spec.
Stat. 294. 10° 12′.2 S., 124° 27′.3 E. Timor-sea 73 M. Soft mud with very fine sand. 1 Spec.
Stat. 306. 8° 27′ S., 122° 54′.5 E. Savu-sea. 247 M. Sandy mud. 5 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 3 Spec.

Though the species is rather variable in colour and even slightly in sculpture, none of the specimens agrees sufficiently with *P. gemmata* Hinds, as described and figured by REEVE, the whorls being by no means so strongly concave between two keels, so I have followed SMITH (l. c.) in naming them *P. fusca*; the specimen from Stat. 156 is very doubtful, being a worn shell, which agrees however in shape with typical *P. fusca*, as figured by TRYON. Mr. SMITH, whom I wrote about the question, persists in his opinion, that the two forms are separable and that the true *gemmata* is Californian. May it be that *P. gemmata* of many authors is not the same as that of HINDS? Some very young specimens are of course rather doubtful.

14. *Pleurotoma (Gemmula) monilifera* Pease.

PEASE. Proc. Zool. Soc. Lond. 1860, p. 398.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 73, Pl. 15, fig. 7, 9.
TRYON. Man. of Conch. Vol. VI, p. 173, Pl. 4, fig. 52 (*gemmata* pars).

Stat. 33. Bay of Pidjot, Lombok. 22 M. and less. Mud, coral and coralsand. 1 Spec.
Stat. 64. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 2 Spec.
Stat. 204. Between islands of Wowoni and Buton, western entrance of Buton-strait. 75—94 M. Sand with dead shells. 2 Spec.
Stat. 260. Near North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 4 Spec.
Stat. ? 1 Spec.

Though the specimens vary slightly, they are without doubt separable from the preceding species, many of them are rather juvenile.

15. *Pleurotoma (Gemmula) Kieneri* Doumet.

DOUMET. Magasin de Zool. 1840, Pl. 10.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 56 (*carinata*).
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 15, Pl. 3, fig. 1 *(carinata)*.
TRYON. Man. of Conch. Vol. VI, p. 173, Pl. 4, fig. 49 *(carinata)*.
SMITH. Ann. and Mag. Nat. Hist. Ser. 6, Vol. XVIII, p. 367.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 2 Spec.
Stat. 166. 2° 28'.5 S., 131° 3'.3 E. Arafura-sea. 118 M. Hard, coarse sand. 1 Spec.
Stat. 212. 5° 54'.5 S., 120° 19'.2 E. Banda-sea. 462 M. Fine grey and green mud. 2 Spec.
Stat. 260. Near North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 294. 10° 12'.2 S., 124° 27'.3 E. Timor-sea. 73 M. Soft mud with very fine sand. 2 Spec.
Stat. 306. 8° 27' S., 122° 54'.5 E. Savu-sea. 247 M. Sandy mud. 4 Spec.

The specimens from deep water differ slightly from the other ones, those from Stat. 212 have the infrasutural keel less developed, in those from Stat. 306 on the contrary, the sculpture is very strong and especially such specimens with short (broken) canal, remind the next species, these specimens are without the usual brown markings, and though this may largely be due to their being dead shells, it seems that the great depth may account for it, for even in the best preserved specimen, I see no trace of it, except in the infrasutural keel and perhaps in one or two of the interstices of the beaded keel. (Cfr. SMITH. l. c. p. 368).

16. *Pleurotoma (Gemmula) congener* Smith.

SMITH. Ann. and Mag. Nat. Hist. Ser. 6. Vol. XIV, 1894, p. 160, Pl. 3, fig. 4, 5.
—— Ann. and Mag. Nat. Hist. Ser. 7. Vol. XIII, 1904, p. 456.

Stat. 5. 7° 46' S., 114° 30'.5 E. Bali-sea. 330 M. Mud. 1 Spec.
Stat. 139. 0° 11' S., 127° 25' E. Near Batjan. 397 M. Mud. stones and coral. 2 Spec.

The specimen from Stat. 5, though the canal seems to be broken, has a length of 62 Mill., the greatest length recorded by SMITH; another from Stat. 139 is even 66 Mill., the second specimen has a swelling on the upper part of columella.

17. *Pleurotoma (Gemmula) praesignis* Smith.

SMITH. Ann. and Mag. Nat. Hist. Ser. 6, Vol. XVII, 1895, p. 4, Pl. 1, fig. 4.
—— Ann. and Mag. Nat. Hist. Ser. 7, Vol. XVIII, 1906, p. 161.

Stat. 45. 7° 24' S., 118° 15'.2 E. Flores-sea. 794 M. Grey mud with some radiolariae and diatomes. 2 Spec.
Stat. 159. 0° 59'.1 S., 129° 48'.8 E. Halmahera-sea. 411 M. Coarse sand. 1 Spec.

The specimen from Stat. 159 is very young, the nuclear whorls of another young specimen from Stat. 45, though not quite intact, seems to consist of about 2 smooth, rather

convex whorls and 2 other ones with rather coarse, slightly oblique ribs, which are not crowded and a spiral, just above the suture.

18. *Pleurotoma (Gemmula) truncata* n. sp. Pl. XXVI, fig. 1.

Stat. 221. 6° 24′ S., 124° 39′ E. Banda-sea. 2798 M. Solid bluish grey mud with foraminifera, covered by a 5 cM. thick layer of brown mud. 4 Spec.

Shell shortly fusiform, very thin, whitish under a yellowish epidermis. Upper whorls wanting by erosion, remaining whorls 5, angularly convex, separated by a conspicuous undulated suture; upper part of whorls concave, lower part slightly convex, sculpture consisting of strongly waved ribs, more conspicuous in upper whorls, becoming fainter in last one, where they nearly disappear and have more the character of strong growth-lines below the periphery; on the upper whorls these ribs form tubercles on the fasciole, becoming more foldlike on the lower ones; the whorls are crossed by numerous spirals, forming a subsutural rib, which on upper whorls is more conspicuous and adorned with small beads, corresponding to the upper ends of the ribs, the excavation and fasciole are finely lirate; on the basal half of each whorl, the lirae are coarser, especially on last whorl, where they are irregular, with some intermediate ones. Last whorl strongly contracted below periphery, ending in a short, wide canal, slightly directed to the left. Aperture oval, with a moderately sharp angle above and a very wide but not deep sinus at the periphery; peristome thin; columellar margin with a conspicuous white layer of enamel. Operculum thin, corneous, with basal nucleus.

Alt. 19, lat. 8; apert. alt. 9, lat. $3^1/_2$ Mill.

This remarkable species is more or less variable in sculpture, as far as concerns the strength of ribs, tubercles and spirals, but three of them agree in every important particular, in the fourth, a young shell, some characters are obliterated. Though the species may belong to the alliance of *P. praesignis* Smith and *rotatilis* v. Marts., it is impossible to combine it with any of the described species.

19. *Pleurotoma (Gemmula) Sibogae* n. sp. Pl. XXVI, fig. 2.

Stat. 137. Channel between Makjan and Halmahera. 472 M. Fine dark muddy sand. 1 Spec.

Shell broadly fusiform, with acute, conical spire and strong, angular last whorl, thin, whitish, faintly yellowish on the keel, between the nodules. Whorls 11, but the number may be considerably more, as the upper nuclear whorl seems to be wanting and the shell has the appearance of being not adult. One upper nuclear whorl (or 2) smooth, convex, followed by nearly another whorl, with rather remote ribs; subsequent whorls concave above the keel, with a moderately strong infrasutural keel and 1 or 2 other spirals in the excavation between suture and keel; the infrasutural keel becomes fainter and is scarcely if at all traceable on lower whorls, where on the contrary the number of spirals increases, so that on last whorl of the specimen their number amounts to 6 and two very narrow ones just above the keel; this latter is rather narrow, composed of 3 narrow superficial spirals, more conspicuous between the nodules,

perhaps rubbed off on the nodules themselves. Below the keel the last whorl is very convex, but soon contracted and passes into a slender, moderately long canal; the whole lower part of this whorl is lirate, irregularly on body, where 2 lirae are stronger, more regularly on canal; total number of these lirae about 35, but on base of tail too faint to be properly counted; moreover a few narrow intermediate ones below periphery, and the whole shell exhibits very fine growth-striae. The nodules on the keel are rounded, slightly compressed, not very numerous, 24 on last whorl. Aperture triangular with an angle above and at the keel; interior of aperture white, smooth, columellar side enamelled, peristome thin, broken.

Alt. $27^1/_2$, lat. $11^3/_4$; apert. alt. with canal $14^3/_4$, lat. $4^1/_2$ Mill.

It is not without some hesitation that I describe this new species on a probably incomplete specimen, but as the number of species in the section to which it belongs is not overwhelming, I think it may afterwards be recognizable if adult specimens are captured. Its nearest ally may be *P. carinata* Gray, as defined by SMITH (Ann. and Mag. Nat. Hist., Ser. 6, Vol. XVIII, 1896, p. 368), which should be the same as *P. speciosa* of REEVE, WEINKAUFF and TRYON. It differs by the large number of spirals, of which there are but from 1 to 3 in GRAY's figure, on Plate 23 of his "Mollusca" in the "Animal Kingdom", Vol. XII, though the peristome of that figure seems to indicate a larger number of lirae. In REEVE's figure (Conch. Ic. fig. 9) the number of keels is likewise much smaller, on the contrary the nodules of keel are much more numerous than in the new species, the same is the case with WEINKAUFF's figures (Jahrb. Deutsche Mal. Gesellsch. 1875, pl. 9, fig. 2, and Martini-Chemn. Conch. Cab. Ed. II, Pl. 15, fig. 5).

## Dolichotoma Bellardi.

1. *Dolichotoma atractoides* Watson.

WATSON. Journ. Linn. Soc. Lond. Vol. XV, 1881, p. 407.
WATSON. Voy. Challenger, Gasterop. p. 301, Pl. 20, fig. 8.
SOWERBY. Proc. Mal. Soc. Lond. Vol. I, 1893, p. 38.
BOETTGER. Nachrichtsbl. Deutsche Mal. Gesellsch. 1895, p. 6.
V. MARTENS. Die beschalten Gastrop. d. deutsch. Tiefsee-Exp. 1898—1899, 1903, p. 86, 87, Pl. 1, fig. 12, 15.
SMITH. Ann. and Mag. Nat. Hist. Ser. 7, Vol. XIII, 1904, p. 459.

Stat. 300. 10° 48′.6 S., 123° 23′.1 E. Timor-sea. 918 M. Fine grey mud. 1 Spec.

The only specimen is very fine and large, its length is 63 Mill., though the nuclear whorls are not intact, its breadth is 29 Mill.; these measurements surpass by far those of WATSON's specimen (1.4 × 0.53 in.), that of SMITH (47 × 20 Mill.) and of VON MARTENS' var. *aethiopica* (37 × 14 Mill.), the var. *obsolescens* v. Marts. being still larger (67 × 22 Mill.) if the text is correct, the line accompanying the figure is only 57 Mill. and the figure of 72 Mill. has a breadth of 32 Mill. The Siboga-specimen contains the soft parts, however in too much contracted state, to say much about them. I see a thick siphon, strong tentacles, the foot is rounded posteriorly and bears a comparatively small, corneous, thick, oval, concave operculum, with the nucleus at the right side, its length is about $5^1/_2$, its breadth $3^1/_2$ Mill.

## Drillia Gray.

1. *Drillia cagayanensis* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1846, p. 4.
—— Conch. Ic. Vol. I, Pleurotoma, fig. 329.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 183, Pl. 36, fig. 3.
TRYON. Man. of Conch. Vol. VI, p. 180, Pl. 11, fig. 79.

Stat. 285. Near South coast of Timor. 34 M. Limit between mud and coral. Lithothamnion. 1 Spec.

I owe the identification of this specimen to Mr. SMITH, who pronounces it to be a very fine example of *cagayanensis*; it is much larger than REEVE's specimen, being 25 Mill. in lenght, for though REEVE's figure has the same length, it is according to text $1^1/_2$ times magnified, mereover it is more elongated, the tubercles of the upper part of ribs are less conspicuous, the colour is yellowish-white, with traces of red-brown spots near the aperture, especially one rather large blotch below the suture, at some distance from the sinus. This species belongs to the section *Brachytoma*, often written *Brachystoma*, the first orthography being employed by TRYON on page 155, the second on page 176 of his Manual; BOETTGER (Nachrichtsbl. d. D. Mal. Gesellsch. 1895, p. 6) says *Brachystoma*, COSSMANN (Essai de Paléoconchologie, part II, pag. 62) *Brachytoma* non *Brachystoma*. A worse evil is that the limits of the sections are so ill-defined, that no two authors agree in referring the species to one section or to another, under such circumstances I thought it better not to quote them at all.

2. *Drillia interrupta* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 347.
KIENER. Coq. Viv. Vol. IV, Pleurotoma, p. 32, Pl. 12, fig. 2.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 51.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 129, Pl. 29, fig. 1, 4.
TRYON. Man. of Conch. Vol. VI, p. 181, Pl. 10, fig. 68, 76.

Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion. 5 Spec.

This species, according to BOETTGER (l. c., p. 7), should be *P. vibicina* of HELBLING.

3. *Drillia flavidula* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 346.
KIENER. Coq. Viv. Vol. IV, Pleurotoma, p. 30, Pl. 6, fig. 2.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 66.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 45, Pl. 10, fig. 1, 2.
TRYON. Man. of Conch. Vol. VI, p. 177, Pl. 10, fig. 56.

Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 260. Near north point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.

As both specimens are young, dead shells, not very typical, I need not say that they are rather doubtful.

4. *Drillia zonata* (Gray) Reeve, var.

REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 74 (type).

Stat. 303. Haingsisi, Samau-island. Up to 36 M. Lithothamnion. 1 Spec.

The only specimen is a young, empty shell, and without Mr. SMITH's assertion, I should not have recognized it as belonging to that species. It is reddish brown, with white upper whorls, light coloured near the base and on the ribs, but I can trace no dark zone, as figured by REEVE. It is too incomplete (young) to give it a varietal name, length only 21 Mill., moreover it is possible that it might have been more typical if adult. It have not quoted the figures of WEINKAUFF or TRYON, that of TRYON being a copy of REEVE's figure, WEINKAUFF's figure agreeing no more with the Siboga-shell; both authors consider this species to be a synonym of *D. flavidula*.

5. *Drillia theoreta* Melvill.

MELVILL. Ann. and Mag. Nat. Hist. Ser. 7, Vol. IV, 1899, p. 85, Pl. 1, fig. 2.

Stat. 51. Madura-bay, 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.
Stat. 260. Near North point of Nuhu Jaan. Kei-islands. 90 M. Sand, coral and shells. 2 Spec.

The specimen from Stat. 133 has the normal length of 22 Mill., one specimen from Stat. 260 is very small (about 11 Mill.) the other is young, all the specimens are dead and more or less bleached, but they have the maculations on the ribs.

6. *Drillia robusta* Hinds.

HINDS. Proc. Zool. Soc. Lond. 1843, p. 39.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 204.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 184, 215, Pl. 36, fig. 7, Pl. 40, fig. 15.
TRYON. Man. of Conch. Vol. VI, p. 180, Pl. 11, fig. 10.

Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 2 Spec.

The specimens are less angular than REEVE's figure which has been twice copied by WEINKAUFF.

7. *Drillia subangusta* n. sp. Pl. XXVI, fig. 3.

Stat. 159. 0° 59'.1 S., 129° 48'.8 E. Halmahera-sea. 411 M. Coarse sand.

Shell narrowly elongate, fusiform, very light yellowish white. Whorls 9, of which about $1^1/_2$ form a slightly swollen, smooth nucleus, subsequent whorls convex, separated by an undulated suture, which is accompanied by a spiral rib, conspicuous on upper whorls, becoming fainter lower on, nearly disappearing towards last whorl, upper part of whorls with a rather narrow excavation, wider but shallower on lower whorls, excavation sculptured with waved concentric striae

and very fine spiral striae, lower part of whorls with strong rounded ribs, 10 on last whorl, crossed by from 3 to 4 spiral lirae on lower whorls, 19 on last one, of which the upper 6 are more remote, the lower ones on base and canal crowded, on the ribs the upper lirae are beadlike, then the ribs disappear. Aperture narrowly elongated, peristome broken, upper sinus probably wide, columellar margin slightly concave above, with a tubercle at sinus, straight below, canal wide, slightly upturned, interior of aperture white.

Alt. 15, lat. about $4^1/_2$; apert. alt. $5^1/_2$, lat. about 2 Mill.

Though this specimen is not quite complete, its shape is too peculiar to neglect it. Mr. SMITH who compared it for me, says it is allied to but different from *angusta* SMITH (Ann. Mag. Nat. Hist. Ser. 4, Vol. XIX, 1877, p. 495); that species is still narrower, has a considerably larger number of ribs on last whorl (15) and has 5 or 6 spiral grooves on upper whorls, with 5 or 6 nodules on ribs, (only 2 or 3 in the new species).

8. *Drillia laterculata* Sowerby, var.

SOWERBY. Proc. Zool. Soc. Lond. 1870, p. 253.
SMITH. Moll. Zool. Coll., "Alert" 1884, p. 38, Pl. 4, fig. E. E 1.

Stat. 162. Between Loslos and Buton-islands, West of Salawatti. 18 M. Coarse and fine sand with clay and shells. 1 Spec.

The specimen is smaller (16 Mill.) but otherwise agrees rather well with figure E 1 of SMITH and with his description of the variety.

9. *Drillia incerta* Smith.

SMITH. Ann. and Mag. Nat. Hist. Ser. 4, Vol. XIX, 1877, p. 496.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.

This specimen, also identified by Mr. SMITH, is smaller (19 Mill. instead of 25) probably not full-grown, with the lirations less numerous, as it is moreover bleached, (though light yellowish-brown) and not quite typical, it is unfortunately not fit for figuring this still unfigured species.

10. *Drillia rubidofusca* n. sp. Pl. XXVI, fig. 4.

Stat. 240. Banda. 9—45 M. Black sand, coral, Lithothamnion. 1 Spec.

Shell fusiform, rather solid, uniformly red-brown, lighther behind peristome and at the sutural sinus, and with orange base. Whorls 6, (apex broken; the number of whorls may have been at least 10) rather convex, slightly excavated below the conspicuous suture, which is accompanied by an inconspicuous infrasutural thread. Sculpture consisting of somewhat oblique ribs, nearly crossing the entire whorl in the upper ones, but becoming obsolete in the infrasutural depression of lower whorls, about 15 ribs on last whorl, of which the ventral ones are obsolete, that behind the peristome very strong, varix-like, moreover the shell is covered with fine growth-striae and very fine spiral striae, only visible under a lens, 6 spiral lirae cross the ribs, in most cases with intermediate, much finer lirae and 3 to 4 very faint ones in the excavation;

on the last whorl the number of principal lirae amounts to 20. Aperture oblong, narrow, with thin peristome, protracted about the middle, with a deep, rather wide sinus above (fig. 1,) columellar side with a thick layer of enamel, with a flat, whitish tubercle above at the sinus, straight below, peristome margined with red-brown interiorly, with a light violet layer of enamel behind, in the depth again red-brown, upper part of columellar layer red-brown. Canal slightly upturned.

Fig. 1. *Drillia rubido-fusca* n. sp.

Alt. 18 (may have been 20), lat. $6^1/_4$; apert. alt. from upper part of sinus to base of canal $8^1/_2$, lat. $2^1/_8$ Mill.

Though this only specimen is incomplete, it seems to deserve description. It has some superficial resemblance with *Pleurotoma (Drillia) castanea* REEVE, by its shape and colour, but it differs in sculpture, is less angular, *D. castanea* being according to description smooth, with fine grooves at the base, WEINKAUFF's description and figure of that species (Conch. Cab. Pleurotoma, p. 102, Pl. 22, fig. 46) scarcely agree with those of REEVE, as his shell is "spiraliter liratula", which should better agree with the Siboga-specimen. I can scarcely believe that the differences could depend on age, as WEINKAUFF suggests, at least the upper whorls in my specimen are likewise lirate, WEINKAUFF's figure represents a much broader angular shell, more strombiform.

11. *Drillia pagodaeformis* n. sp. Pl. XXVI, fig. 5.

Stat. 159. 0° 59'.1 S., 129° 28'.8 E. Halmahera-sea. 411 M. 1 Spec.
Stat. 256. 5° 26'.6 S., 132° 32'.5 E. Near Kei-islands. 397 M. Greyish green mud. 2 Spec.

Shell elongately fusiform, moderately solid, light yellowish-brown, lighter on the canal. Whorls about 11, of which about $1^1/_2$ form a smooth, inflated, laterally-inclined nucleus. Postnuclear whorls angular, very convex, separated by a linear, undulated suture, accompanied by a faint infrasutural rib, more conspicuous on upper whorls; upper part of whorls conspicuously excavated, lower part with strong, short, nodulous, oblique ribs, abruptly ending at the excavation, scarcely reaching the basal suture in lower whorls. There are 3 faint, raised, spiral lirae in the excavation, crossed by elegantly curved, partly riblike striae, 4 to 5 stronger lirae crossing the ribs, with a few faint striae above them on the limit between ribs and excavation in lower whorls; on the penultimate whorl, another liration appears at some distance above the suture, amounting to 3 rather remote, strong lirae on last whorl, and a large number (about 20) on basal part of last whorl and canal; body-whorl strongly attenuated below, ending in a long, slightly curved canal. Aperture ovate, probably with a rather wide, deep sinus (the peristome is broken), columellar margin concave above, strongly contorted below, with a thin layer of enamel.

Alt. $28^3/_4$, lat. 8; apert. alt. $12^1/_2$, lat. about $3^1/_2$ Mill.

The specimen from Stat. 159 has the lirae in the excavation somewhat more apparent, which may be due to its being a dead, calcified shell; one of the specimens from Stat. 256 is young and very bad, that which has served for description, though incomplete, seemed to be remarkable enough to deserve a name, for though broken, it is a rather fresh shell, the great

depth may be the true one, as the depth of the two localities does not differ considerably. This species is remarkable for its pagodaeform shape, caused by the great contrast between the upper and lower part of whorls.

12. *Drillia varicosa* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1843, p. 187.
—— Conch. Ic. Vol. I, Pleurotoma, fig. 141.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 85, Pl. 18, fig. 6, 11.
TRYON. Man. of Conch. Vol. VI, p. 205, Pl. 12, fig. 17.

Stat. 123. North-bay, Biaru-island. 36—27 M. Stone and Lithothamnion-bottom. 1 Spec.
Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 2 Spec.

The specimens are not quite adult, those from Stat. 123 and 133 are moreover bleached, however they agree with the upper whorls of more complete specimens.

13. *Drillia sinensis* Hinds.

HINDS. Proc. Zool. Soc. Lond. 1843, p. 38.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 153.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 77, Pl. 16, fig. 5.
TRYON. Man. of Conch. Vol. VI, p. 201, Pl. 11, fig. 84.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 51. Madura-bay. 69—91 M. Fine grey sand; coarse sand with shells and stones. 2 Spec.
Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.
Stat. 77. Borneo-bank. 59 M. Fine grey coralsand. 1 Spec.
Stat. 153. 0° 3′.8 N., 130° 24′.3 E. Bougainville-strait. 14 M. Fine and coarse sand with dead shells. 1 Spec.
Stat. 162. Between Loslos and Broken-islands. West of Salawatti. 18 M. Coarse and fine sand with clay and shells. 1 Spec.
Stat. 205. Lohio-bay, Buton-strait. 22 M. Sandy mud. 1 Spec.
Stat. 260. Near North point of Nuhu Jaan. 90 M. Sand, coral and shells. 1 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 3 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 3 Spec.

Varying in colour from yellowish to more dark red-brown, but quite agreeing in sculpture, the specimen from Stat. 162 is a very fine colour-variety, with a white zone at the angle, below the periphery of last whorl and a narrower one on the canal. The quoted figures are not very satisfactory, still less so the synonymy given by TRYON, who throws together even very different forms. The specimens from Stat. 2 and 153 are young and dead and could only be identified with moderate certainly by comparison with the upper whorls of adult ones.

14. *Drillia Aesopus* n. sp. Pl. XXVI, fig. 6.

Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 3 Spec.

Shell fusiform, with long, acute spire, yellowish-brown, alternating with red-brown. Whorls

13 or 14, of which at least 2 (uppermost whorl broken) form a smooth nucleus, with scarcely convex whorls, probably about half a whorl with only a few smooth ribs must still be reckoned to the nucleus. Remaining whorls with a rather strong, nodulous, bilirate, infrasutural rib, red-brown in the interstices of nodules, below this is a rather narrow excavated space, with 5 spiral threads and faint, descending, red-brown flammules, corresponding to the interstices of the subsutural nodules, lower part of whorls with slightly oblique, rather numerous ribs, 17 in number on penultimate whorl; the ribbed zone is convex, angular above, crossed by 4, on lower whorls by 5 rather flat, stronger, spiral lirae and between these 2 fainter spirals, the shell has moreover rather strong growth-lines, making the interstices between the ribs granular, these interstices are more or less red-brown; on last whorl, which is contracted below and ends in a rather short, recurved canal, the ribs become fainter below periphery; near and on the canal the darker colour reappears in a fainter way; the last whorl is humpbacked by a strong, oblique varix, even continued in a fainter manner on the canal, this last whorl with canal is crossed by about 20 principal lirae. Aperture oblong, with a rather deep sinus above, narrower at its entrance than behind, where it is regularly rounded; peristome rather thin, with a large sinus near the limit of last whorl and canal, columellar margin tubercled above, then slightly concave, running nearly straight in the narrow, slightly contorted and upturned canal, it is strongly enamelled, especially below, where it leaves a conspicuous umbilical slit. Interior of aperture white.

Alt. 32, lat. $9^3/_4$; apert. alt. 12, lat. $3^1/_2$ Mill.

This species has some resemblance with the preceding ones, but may be easily distinguished by its sculpture, especially by the single, strong varix on the back, the numerous ribs and by its colour, most of the specimens are smaller, probably young.

15. *Drillia rubrozonata* n. sp. Pl. XXVI, fig. 7.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. 2 Spec.

Shell small, rather broadly fusiform, with moderately long spire, subpellucid, whitish, painted with purplish red-brown. Whorls 9, of which about 3 form a smooth nucleus, with slightly convex sides and 3 or 4 ribs at the end of last nuclear whorl. Postnuclear whorls convex, separated by an undulated suture, with rather thick, rounded ribs, 9 or 10 in number on penultimate whorl; these ribs occupy the whole space of the upper whorls, they are slightly angular below a narrow infrasutural excavation, especially on last whorl and become less distinct on base of last whorl, where they disappear at last on the canal. Of the spirals firstly a strong one, with oblong nodules corresponding to the ribs, border the suture, it is accompanied by a much finer one in the excavation, 3 rather strong spirals cross the lower part of each whorl, and amount to about 17 on last whorl and canal, with eventually a narrow intermediate one in the interstices of last whorl. The shell has moreover strong, riblike growth-striae, making the interstices of the ribs somewhat granular. The red-brown colour appears in the interstices of the nodules of subsutural rib, and between the ribs in the excavation, forming on lower part of last whorl, 2 more or less distinct bands, one at the periphery, the other at the base of last whorl, the base of canal is of the same colour, which in some instances occupies nearly

the whole space between two ribs. Aperture oval, with a broad, rather shallow sinus at the suture and a very shallow one near the limit of canal, peristome thin, columellar side with a callosity at the suture, then slightly concave, running nearly straight in the rather short, wide canal; interior of aperture light violet, with the brown bands of the exterior more or less visible, also on the columellar side, which is rather strongly enamelled.

Alt. 12, lat. 4; apert. alt. $4^3/_4$, lat. $1^1/_2$ Mill.

This species has somewhat the appearance of being a miniature of the preceding one but it is much smaller, has a smaller number of ribs and of lirae, and no trace of the gibbous rib on the back, for though one of the ribs, at some distance from the aperture is somewhat stronger than the other ones, it has by no means that prominent character as in *D. Aesopus*. The specimen from Stat. 51 is not adult, one specimen from Stat. 285 is very young.

16. *Drillia rufolineata* n. sp. Pl. XXVI, fig. 8.

Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coral-bottom. 1 Spec.

Shell broadly fusiform, strong, yellowish, painted and spirally lineated with red-brown. Whorls 9, of which about 2 form a smooth nucleus, post-nuclear whorls convex, with an undulated suture, accompanied by a subsutural rib or keel, below this a slight excavation. Sculpture consisting of strong rounded ribs, crossing, though less distinctly, the excavation, 10 in number on last whorl, where they nearly reach the base; one rib at some distance from the peristome, just behind the upper sinus, especially strong and varix-like. The brown colour consists of a faint tinge in the excavation, a similar zone below the periphery, much more conspicuous between the ribs, the principal lirae being nearly without exception red-brown, especially 4 of them on last whorl. Spirals from 3 to 7 on upper whorls and numerous ones on last whorl and canal, which cannot be divided in principal and secondary ones, the excavation is finely spirally striated, moreover very fine growth-lirae are visible in many parts, if seen with a strong lens. Aperture elongately oval, with a broad, moderately deep sinus below the suture, peristome rather thin, with a very shallow sinus near the canal, which is short and broad; columellar margin tubercled above, then slightly concave, then straight and slightly directed to the left at the canal, strongly enamelled in its whole length. Interior of aperture light purplish, nearly white near the peristome.

Alt. $16^1/_2$, lat. $5^3/_4$; apert. alt. 7, lat. 2 Mill.

This species, which belongs to the alliance of the preceding ones, may be distinguished by its convexly rounded whorls, which have scarcely a tendency to be angular below the excavation and by its fine red-brown lirae on a more or less clear, yellowish ground.

17. *Drillia intertincta* Smith.

Smith. Ann. and Mag. Nat. Hist. Ser. 4. Vol. XIX, 1877, p. 497.
Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 104, Pl. 22, fig. 8.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 164. 1° 42′.5 S., 130° 47′.5 E. Near West New-Guinea. 32 M. Sand, small stones and shells. 2 Spec.
Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

This species seems to be somewhat variable in sculpture and colour, the spiral lirae of penultimate whorl, vary in number from 3 to 5; in the specimens from Stat. 164, not only the infrasutural keel is adorned with red-brown dots, but also the principal lirae on many places. As TRYON, who has probably not known the species, enumerates it amongst his synonyms of *D. sinensis* and gives only a rude copy of WEINKAUFF's rather rude figure, I have not quoted that author.

18. *Drillia sterrha* Watson.

WATSON. Prelim. Report, Challenger Moll. Journ. Linn. Soc. Lond. Vol. XV, 1881, p. 426.
—— Report of the Challenger-Gastrop. p. 305, Pl. 21, fig. 3.

Stat. 162. Between Loslos and Broken-islands. West of Salawatti. 18 M. Coarse and fine sand with clay and shells. 1 Spec.
Stat. 164. 1°42'.5 S., 130°47'.5 E. Near West New-Guinea. 32 M. Sand, small stones and shells. 3 Spec.

The upper part of the ribs below the excavation, seems to be a little more angular than in WATSON's figure, and the number of ribs on last whorl of the largest specimen is 14, otherwise I find no differences of any importance.

19. *Drillia regia* (Beck) Reeve.

REEVE. Conch. Syst. Vol. II, p. 187, Pl. 233, fig. 7.
—— Conch. Ic. Vol. I, Pleurotoma, fig. 75.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 75, Pl. 16, fig. 1, 3.
TRYON. Man. of Conch. Vol. VI, p. 201, Pl. 11, fig. 80.

Stat. 66. Bank between Bahuluwang and Tambolungan, South of Saleyer. 8—10 M. Dead coral, Halimeda, Lithothamnion. 1 Spec.
Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

BECK's name was only a manuscript-name, so I have quoted REEVE as the author. The sculpture is sharper than in REEVE's figure, more like that of WEINKAUFF. After receiving specimens of *D. Rougeyroni* Souv. (Journ. de Conch., 1874, p. 187, Pl. 7, fig. 1), I scarcely can find differences of much importance, which could not be ascribed in part to the state of preservation of the specimens. SOUVERBIE's much more detailed description is very well applicable to the Siboga-specimens. If the two species ought to be united, the name affixed by REEVE should have priority. Mr. LE BOCKTON TOMLIN (Journ. of Conch. Vol. XIII, 1910, p. 43) thinks the two are different.

20. *Drillia radula* Hinds.

HINDS. Proc. Zool. Soc. Lond. 1834, p. 16.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 223.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 90, Pl. 19, fig. 4, 6.
TRYON. Man. of Conch. Vol. VI, p. 241, Pl. 7, fig. 89.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 104. Sulu harbour, Sulu-island. 14 M. Sand. 1 Spec.

Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coralbottom. 1 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.
Stat. 162. Between Loslos and Broken-islands. West of Salawatti. 18 M. Coarse and fine sand with clay and shells. 1 Spec.
Stat. 164. 1° 42′.5 S., 130° 47′.5 E. Near West New-Guinea. 32 M. Sand, small stones and shells. 2 Spec.
Stat. 260. Near North point of Nuhu Jaan. Kei-islands. 90 M. Sand, coral and shells. 1 Spec.

The specimens slightly vary in sculpture, much more in colour, some specimens are nearly or quite white, however I think this may be due to bleaching, as they are dead shells. I have located the species in *Drillia* instead of *Surcula*, though not without hesitation and after I have seen that HEDLEY (Proc. Austral. Assoc. adv. sc. 1909, p. 365) has done the same. Unfortunately I cannot see that any of the specimens contain the soft parts.

21. *Drillia audax* Melvill & Standen.

MELVILL & STANDEN. Ann. Mag. Nat. Hist. Ser. 7, Vol. XII, 1903, p. 313, Pl. 23, fig. 1.

Stat. 306. 8° 27′ S., 122° 54′.5 E. Savu-sea. 247 M. Sandy mud. 2 Spec.

The sculpture of the Siboga-specimens is coarser than that of a specimen from the Gulf of Oman presented to me by Mr. MELVILL, especially on last whorl, but otherwise I see no differences of any importance. These differences in sculpture may be partly due to variability, the localities being very remote, partly be caused by the Siboga-specimens being dead, which renders sculpture more conspicuous, as long as the shells are not worn.

22. *Drillia kwandangensis* n. sp. Pl. XXVI, fig. 9.

Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 1 Spec.

Shell elongately fusiform, strong, rather dark reddish-brown. Whorls 8, of which 3 form a smooth, red-brown nucleus; post-nuclear whorls slightly convex, strongly lirate below the suture, with at first 2, lower on 3 strong spiral lirae on each whorl, 14 in number on last whorl and 2 faint ones below subsutural liration, more or less visible on upper whorls; the whorls are crossed by thick, rounded ribs, making the lirae slightly beaded, 9 in number on penultimate whorl, faint on last one, which has a very strong rib behind peristome, moreover the shell is crossed by conspicuous growth-lines. Aperture oblong, angular above, peristome rather thin, with a conspicuous sinus above, then protracted towards the middle, columellar margin concave above, straight below, with a strong layer of enamel, a tubercle above at the sinus; interior of aperture smooth, red-brown with a bluish tint in its depth. Canal straight, rather narrow.

Alt. $8^1/_2$, lat. 3; apert. alt. 3, lat. 1 Mill.

Allied to the preceding species, but differing by its much coarser sculpture, which is still considerably stronger than in the specimens of *audax*, recorded above, and by its uniform red-brown colour.

23. *Drillia timorensis* n. sp. Pl. XXVI, fig. 10.

Stat. 285. Near south coast of Timor. 34 M. Limit between mud and coral. Lithothamnion. 1 Spec.

Shell elongately fusiform, strong, reddish-brown. Whorls 7, of which about $1^1/_2$ form a smooth nucleus; post-nuclear whorls moderately convex, with a strong liration below the suture and from 3 to 4 lirae on their lower part, 11 on last whorl, moreover the shell is covered with fine spiral striae and growth-lines, and is crossed by thick, rounded, oblique ribs, 12 in number on penultimate whorl, which give the shell an elegantly beaded appearance, last rib before peristome very thick. Aperture elongately oval, peristome thick, with a rather shallow sinus above, protracted lower on. Columellar margin concave above, rather straight below, with a strong layer of enamel, interior of aperture as in preceding species, but less bluish. Canal straight, rather narrow.

Alt. $8^1/_2$, lat. $2^4/_5$; apert. alt. $3^1/_4$, lat. 1 Mill.

Still nearly allied to the preceding species, from which it differs by a smaller number of spiral lirae, the fine spiral striae and a larger number of ribs. Though it may be possible, that if more specimens could be compared, these differences would prove to have only varietal rank, the spiral striation induced me to keep them provisionally separate. I find no trace of it in the preceding form.

24. *Drillia batjanensis* n. sp. Pl. XXVII, fig. 1.

Stat. 139. 0° 11′ S., 127° 25′ E. Near Batjan. 397 M. Mud, stones and coral. 1 Spec.

Shell fusiform, strong, whitish. Whorls 6, of which 3 form a large, convexly-whorled, smooth and shining nucleus. Post-nuclear whorls moderately convex, slightly concave below a strong, yellowish, subsutural spiral. Sculpture consisting of this spiral and some other ones, 7 in number on penultimate, 22 and a few intermediate ones on last whorl, stronger on lower part of upper whorls and on median part of last one; the spirals are crossed by conspicuous growth-striae, stronger in the interstices, which are broader near the base. Aperture oval, angular above, peristome strong, with a rather wide, deep sinus above, protracted lower on, bordered exteriorly by a strong, rounded rib; columellar margin slightly concave above, nearly straight below, with a strong layer of enamel, forming a wall at its upper extremity, bordering the sinus; canal rather wide, slightly directed to the left, interior of aperture smooth, white.

Alt. $7^1/_2$, lat. $3^1/_4$; apert. alt. $3^1/_2$, lat. 1 Mill.

This species, which with the 3 preceding ones forms a somewhat peculiar group, has some resemblance with *D. circumvertens* Melv. & St. (Proc. Zool. Soc. Lond. 1901, p. 436, Pl. 23, fig. 23), but a close comparison with the description and figure, gives the following differences; that species has 8 whorls, a much smaller nucleus of but 2 whorls, it is keeled, which cannot be said of the new species, which has the lirae more regular, on the base the lirae in *D. circumvertens* are much more close, the total number of lirae however is larger.

25. *Drillia Sibogae* n. sp. Pl. XXVII, fig. 2.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 2 Spec.
Stat. 260. Near North point of Nuhu Jaah. Kei-islands. 90 M. Sand, coral and shells. 1 Spec.

Shell broadly pyramidal, with short canal, yellowish-white, stained with brown and with a few waved, white streaks. Whorls 9, of which about 2 form a smooth, convexly-whorled, brown-tinged nucleus. Subsequent whorls slightly contracted above, not very convex below, separated by a conspicuous, slightly waved suture; sculpture consisting in the excavation of a strong liration, single in upper whorls, divided lower on by a groove, and correspondingly adorned by a single or double row of beads, below this, 2 narrow lirae run still in the excavation; lower part of whorls with a larger number of lirae, 6 in penultimate whorl, about 25 in last whorl, inclusive of canal, with more or less conspicuous intermediate ones in many interstices. These lirae are crossed by oblique, on lower whorls by waved ribs, more conspicuous and remote on upper whorls, closer and fainter on last one, producing beads where they are intercrossing, the last whorl having the appearance of being more or less regularly beaded all over. The brown colour is very irregularly divided, on the infrasutural band it is nearly continuous but on the body-whorl darker brown beads alternate with lighter or even white ones. Last whorl rather convex, attenuated below, ending in a short, rather broad canal. Aperture oval, with a wide sinus above, peristome thin, regularly arcuate, columellar margin concave, running in the canal, which is wide and slightly directed to the left; interior of aperture bluish white, columella with a thin layer of white enamel.

Alt. 15, lat. 6; apert. alt. $6^1/_2$, lat. $2^1/_3$ Mill.

I know no species which is nearly allied to this one, in sculpture it resembles somewhat *D. digitalis* Reeve, but not at all in shape or colour.

26. *Drillia Dunkeri* Weinkauff.

Weinkauff. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 75, Pl. 16, fig. 2.
Tryon. Man. of Conch. Vol. VI, p. 179, Pl. 8, fig. 24 (*umbilicata* jun.).

Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.

The Siboga-specimen is larger than Weinkauff's one, (38 instead of 31 Mill. in length), but otherwise it agrees as well as can be desired, with his description and figure; Weinkauff did not know its locality. Tryon says (l. c.) it is an immature *D. umbilicata* Gray, the quoted localities are "Sierra Leone (Gray); West-Indies (Swift)"; the Siboga-specimen has not at all a juvenile appearance and this circumstance, connected with the remote locality, may plead for my opinion that the two species may stand. As I have seen no other specimens, I cannot insist on the other important differences in shape and particulars of aperture, between the existing figures.

27. *Drillia dejecta* Smith.

Smith. Ann. Mag. Nat. Hist. Ser. 6, Vol. II, 1888, p. 306.

Stat. 260. Near North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.
Stat. 285. South coast of Timor. 34 M. Limit between mud and coral. Lithothamnion. 7 Spec.

The Siboga-specimens vary a little in size, but they all agree in sculpture.

28. *Drillia interpunctata* Smith.

SMITH. Ann. Mag. Nat. Hist. Ser. 5, Vol. X, 1882, p. 207.

Stat. 60. Haingsisi, Samau-island, Timor. Shore. 1 Spec.
Stat. 95. 5°43'.5 N., 119°40' E. Sulu-archipelago. 522 M. Stony bottom. 1 Spec.

The specimens are young, somewhat bleached shells, one of them with only traces of the brown colour. Mr. SMITH, to whom I owe the identification, writes about it: "I cannot separate this from the young of *interpunctata* Sm., said to be from St. Thomas. St. Th. may be wrong. It is a Cumingian locality". The specimen from Stat. 95 probably has not lived at a depth of 522 M.

29. *Drillia opalus* Reeve.

REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 274.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 209, Pl. 40, fig. 1.
TRYON. Man. of Conch. Vol. VI, p. 253, Pl. 20, fig. 5.

Stat. 169. Near Atjatuning, West coast of New-Guinea. 57 M. Mud. 1 Spec.
Stat. 294. 10°12'.2 S., 124°27'.3 E. Timor-Sea. 73 M. Soft mud with very fine sand. 1 Spec.

TRYON places this species in *Mangilia*, its nuclear whorls agree with those of allied species of *Drillia*, being smooth and convex.

30. *Drillia auriculifera* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 345.
KIENER. Coq. Viv. Vol. IV, Pleurotoma, p. 51, Pl. 2, fig. 2.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 69.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 54, Pl. 12, fig. 2.
TRYON. Man. of Conch. Vol. VI, p. 185, Pl. 8, fig. 25.

Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 3 Spec.
Stat. 282. Between Nusa Besi and N.E.-point of Timor. 27—54. M. Sand, coral and Lithothamnion. 1 Spec.

The specimens from Stat. 37 are young, quite white, but otherwise typical, that from Stat. 282 has lost the scales or they are not developed.

31. *Drillia unizonalis* Lamarck.

LAMARCK. An. s. vert. Ed. II, Vol. IX, p. 347.
KIENER. Coq. Viv. Vol. IV, Pleurotoma, p. 54, Pl. 22, fig. 2.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 113.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 62, Pl. 13, fig. 5, 6.
TRYON. Man. of Conch. Vol. VI, p. 185, Pl. 9, fig. 38.

Stat. 125. Near Sawan, Siau-island. Reef. 1 Spec.

The specimen is quite typical.

32. *Drillia obliquicostata* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 110.
—— Conch. Ic. Vol. I, Pleurotoma, fig. 168.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II. Vol. IV, Pleurotoma, p. 214, Pl. 40, fig. 13.
TRYON. Man. of Conch. Vol. VI, p. 204, Pl. 12, fig. 12.

Stat. 104. Sulu-harbour, Sulu-island. 14 M. Sand. 1 Spec.
Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.

Of this species, the locality of which was not known to the quoted authors, I have recorded subfossil specimens from Celebes.

33. *Drillia gibberula* Hervier.

HERVIER. Journ. d. Conch. 1895, p. 143.
—— Journ. d. Conch. 1896, p. 57, Pl. 1, fig. 5.

Stat. 109. Near Pulu Tongkil, Sulu-archipelago. 13 M. Lithothamnion-bottom. 1 Spec.

The specimen is less whitish near the sinus, but otherwise agrees in every respect with the description and with specimens from Lifu.

34. *Drillia nitens* Hinds.

HINDS. Proc. Zool. Soc. Lond. 1843, p. 41.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 189.
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 183, Pl. 36, fig. 5.
TRYON. Man. of Conch. Vol. VI, p. 253, Pl. 20, fig. 2.

Stat. 2. Madura-strait. 56 M. Grey mud with some radiolariae. 1 Spec.
Stat. 66. Kambaragi-bay, Tanah Djampeah. Up to 32 M. Coral, coralsand. 2 Spec.
Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 1 Spec.

Without Mr. SMITH's assistance I should not have identified the specimens, as the quoted figures seem to be not characteristic, those of WEINKAUFF and TRYON are more or less accurate copies of REEVE's figure. The ribs are not so strongly angular as figured by REEVE, I see no whitish band. The species appears to be rather variable in number of ribs and in their being more or less rounded. TRYON locates the species in *Mangilia*.

35. *Drillia suluensis* n. sp. Pl. XXVII, fig. 3.

Stat. 95. 5°43'.5 N., 119°40' E. Sulu-archipelago. 522 M. Stony bottom. 2 Spec.

Shell shortly fusiform, smooth, shining, white. Whorls 6 to 7, of which about 2 form a smooth, convexly-whorled nucleus, subsequent whorls slightly convex, with a narrow depression below the simple suture, lower part with rather strong, rounded ribs from suture to suture, about 10 on penultimate whorl, fainter in the excavation, which latter as well as the ribs disappear on last whorl, with the exception of a strong rib behind the peristome, this latter whorl is moreover slightly compressed, with a trace of a second rib or indistinct varix on the

left side of whorl, which is contracted below, with a few indistinct spiral lirae near base; the whole shell is covered with very fine growth-striae. Aperture short, oval, with a broad, rather deep, rounded sinus at the suture, narrower by a strong columellar tubercle; peristome thin, though strongly ribbed exteriorly, columellar margin concave, strongly enamelled, base of aperture ending in a short, wide canal.

Alt. 8, lat. 3; apert. alt. 3, lat. 1 Mill.

This species has been pronounced by Mr. SMITH to be allied to but different from *D. disjecta* Smith (Ann. Mag. Nat. Hist., Ser. 6, Vol. II, 1888, p. 308). That species is according to description more slender, with 10 ribs on last whorl, but not costate behind peristome, moreover it is tinged with brown between the ribs and at the canal, whereas the last whorl of the new species is smooth, but for a conspicuous rib behind peristome and if quite fresh, it might have been brown behind that rib, at least I find a very faint trace (perhaps bleached) of a brownish colour.

36. *Drillia madurensis* n. sp. Pl. XXVII, fig. 4.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.

Shell shortly fusiform, rather smooth, light buff, with a few red-brown spots below the suture of lower whorls and one faint band on those whorls and 3 on last whorl, the canal being tinted with the same colour. Whorls 9, of which 2 upper ones form a smooth, convexly-whorled nucleus. Subsequent whorls convex, 4 or 5 post-nuclear ones slightly angular below, lower ones becoming more regularly convex. Sculpture consisting of numerous, rather narrow, axial ribs, about 20 stronger and weaker ones on last whorl, that behind the peristome very strong and varix-like; these ribs run from one suture to the other on upper whorls, but are faint towards the base of last whorl, and disappear on the canal, which is spirally lirate; upper part of whorls very faintly spirally striated. Aperture ovate, with an angle above, but scarcely with a sinus, peristome thin, slightly curved, columellar margin tubercled above, then regularly concave and conspicuously enamelled; aperture ending in a short, wide canal. Interior of aperture with a white layer of enamel near peristome and 3 brown blotches at its margin, corresponding to the external bands.

Alt. 14, lat. $10^1/_2$; apert. alt. 5, lat. 2 Mill.

I find no species which is nearly allied, it is remarkable for its numerous ribs and colour.

37. *Drillia (Conopleura) striata* Hinds.

HINDS. Voy. Sulphur, Moll. p. 24, Pl. 7, fig. 22, 23.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 330 (*partita*).
WEINKAUFF. Martini-Chemn. Conch. Cab. Ed. II, Vol. IV, Pleurotoma, p. 127, Pl. 28, fig. 5, 8.
TRYON. Man. of Conch. Vol. VI, p. 211, Pl. 8, fig. 6, 7.

Stat. 285. Near south coast of Timor. 34 M. Limit between mud and coral. Lithothamnion. 1 Spec.

The specimen of this very peculiar and characteristic species is of an exquisite beauty. I can scarcely conceive how most authors consider it to have only sectional rank.

## Borsonia Bellardi.

1. *Borsonia Smithi* n. sp. Pl. XXVII, fig. 5.

Stat. 52. 9°3′.4 S., 119°56′.7 E. Savu-sea. 959 M. Globigerine ooze. 1 Spec.

Shell fusiform, rather thick, yellowish-white. Upper whorls lost by erosion, remaining whorls 6, upper ones still eroded, of the 4 whorls which are in sufficient state of preservation, the upper 2 are slightly angular, their upper part a little excavated, the lower part more convex, with a single row of nodules on the limit; in the lower ones the shell is slightly excavated below the suture, but otherwise regularly rounded, without nodules; sculpture consisting of numerous arcuate striae, with stronger ones at intervals, indicating the margin of the sinus at former periods, and very faint traces of spiral striae in the excavation of the upper whorls, lower part of each whorl sculptured with very fine growth-striae, likewise stronger at intervals and rather weak spiral lirae, of which there are 2 below the angle of the upper sculptured whorl, 2 or 3 on the next, 5 on penultimate and numerous ones on body-whorl. This latter is regularly attenuated towards the base and runs in the rather long, large canal, which in its basal part is free from lirae and only sculptured by fine and groovelike growth-lines. Aperture angularly ovate, with a moderately sharp angle above, ending below in a rather wide, slightly contorted canal. Peristome a little broken, probably rather thick, with a wide, rather shallow sinus above, then regularly arched; columellar margin concave at upper part, along the body-whorl, then thickened, with an obtuse, oblique fold at the upper part of this thicker one, directed to the left below, along the canal. Interior of aperture smooth, white, the whole columellar side with a strong layer of enamel.

Alt. 18, lat. $7^1/_2$; apert. alt. 9, lat. $2^2/_5$ Mill.

This species is very remarkable, I know of but one *Borsonia* from the Indian sea, *B. armata*, described in 1895 by Boettger (Nachrichtsbl. Deutsche Mal. Gesellsch. Band 27, p. 11), which is however in nearly every respect specifically distinct, the generic description of the columellar fold agrees very well with the Siboga-shell: "Columella longa, recta et stricta, superne plica transversa valida, hebeti instructa". Cossmann (Essai de Paléoconch. comp. Vol. II, p. 96) gives as character of the genus: "columelle munie d'un ou de plusieurs plis", and gives (l. c. p. 97) many instances of variability in the number and place of these folds.

## Ancistrosyrinx Dall.

1. *Ancistrosyrinx travancorica* Smith var. *granulata* Smith.

Smith. Ann. Mag. Nat. Hist. Ser. 7, Vol. XIII, 1904, p. 459.

Stat. 95. 5°43′.5 N., 119°40′ E. Sulu-archipelago. 522 M. Stony bottom. 1 Spec.
Stat. 212. 5°54′.5 S., 120°19′.2 E. 462 M. Fine grey and green mud. 1 Spec.

The Siboga-specimens differ from the type described by Smith (Ann. Mag. Nat. Hist. Ser. 6, Vol. XVIII, 1896, p. 368) figured in the Illustrations, Zool. "Investigator", Moll. pl. 7, fig. 1, 1*a* by their granular surface of the lower part of body-whorl; that from Stat. 95, which is the best preserved, has the granules only towards the base of that whorl and on the canal, that from Stat. 212 agrees more with Smith's description of the variety.

2. *Ancistrosyrinx pulchella* n. sp. Pl. XXVII, fig. 6.

Stat. 137. Channel between Makjan and Halmahera. 472 M. Fine, dark, muddy sand. 1 Spec.
Stat. 159. 0° 59'.1 S., 129° 48'.8 E. Halmahera-sea. 411 M. Coarse sand. 2 Spec.

Shell fusiformly pagodaeform, strongly keeled, yellowish-brown, lighter on the canal, with a narrow whitish zone below the periphery and another at the fasciole. Whorls 11, of which nearly 2 form a smooth, convexly-whorled nucleus, subsequent upper whorls nearly smooth, but with a strong keel, which is at first spinous, the spines being horizontally spreading, but soon become more or less upturned and have the character of erect trigonal spines, on the following 3 whorls, spreading again on last one; spines about 20 in number on last whorl. Upper part of these whorls concave, the fasciole smooth, but for fine growth-lines; this fasciole is bordered on the lower whorls by a liration, and the space between this and the spinous keel is faintly 2- or 3-lirate, the space between the keel and lower suture of whorls is conspicuously grooved, grooves 10 in number on penultimate whorl, about 38 on last one, where some of the upper and many of the basal ones have still intermediate lirae, lacking on the penultimate and older whorls. On the last part of last whorl, the shell is still sculptured by strong growth-lines, which, in crossing the interspaces or lirae between the grooves make them granulous. Last whorl contracted below its periphery, ending in a long, straight canal, which is strongly attenuated towards its base. Aperture elongately subtriangular, its upper margin nearly horizontal, with a deep, rather narrow sinus; outer margin joined to the upper one at a somewhat sharp angle, then slightly convex, thin, slightly fringed, columellar margin concave along the body-whorl, then running straight in the rather wide, long, nearly rectilinear canal, with a strong layer of white enamel on its whole length. Interior of aperture smooth, perhaps slightly grooved at its right margin.

Alt. 25, lat. $9^1/_2$; apert alt., with canal 13, lat. 3 Mill.

This species may be readily distinguished from the preceding one by its sculpture, consisting of deep grooves between flat lirae, of which no trace in the type of *A. travancorica* in lower part of whorls, and even in the var. *granulata*, the granules are separated by shallow striae; the spines of a whorl are more numerous in that species and seem to be less pointed, though this latter difference may be due to the state of preservation. Mr. Melvill has (Proc. Mal. Soc. Lond. Vol. VI, 1904, p. 56, Pl. 5, fig. 3) afterwards described another species, *A. orientis*, from the Gulf of Oman, which, as that author presumes, seems to be in very juvenile condition; even in that juvenile state, it differs from my species by its much stronger spines and sculpture, as may be clearly seen by comparison with the young specimen from Stat. 137, which has a length of 9.5 Mill. and has already the spiral sculpture and 17 spines on keel of last whorl.

## Surcula H. & A. Adams.

1. *Surcula symbiotes* Wood-Mason & Alcock.

Wood-Mason & Alcock. Ann. Mag. Nat. Hist. Ser. 6, Vol. VIII, 1891, p. 444, fig. 13 *a, b*.
Smith. Ann. Mag. Nat. Hist. Ser. 6, Vol. XIV, 1894, p. 161, Pl. 3, fig. 7, 8.

Stat. 45. 7° 24′ S., 118° 15′.2 E. Flores-sea. 794 M. Fine grey sand with some radiolariae and diatomes. 1 Spec.

The Siboga-specimen is smaller (36 instead of 57 Mill.), it may not be full-grown, but otherwise agrees with SMITH's extensive description and his fine figure.

2. *Surcula Melvilli* n. sp. Pl. XXVII, fig. 7.

Stat. 262. 5° 53′.8 S., 132° 48′.8 E. Near Kei-islands. 560 M. Solid bluish grey mud. 1 Spec.
Stat. 300. 10° 48′.6 S., 123° 23′.1 E. Timor-sea, 918 M. Fine grey mud. 2 Spec.

Shell shortly fusiform, with long spire, thin, light yellowish red-brown. Nucleus wanting, remaining whorls 11, angularly convex, concave above, lower part with very oblique, somewhat irregular ribs, forming small tubercles on the upper whorls, thick folds on the lower ones; these ribs are not visible in the excavation, their number is 22 on last whorl; the whole shell is covered with fine growth-striae, intermingled with some coarser ones and very numerous, waved, spiral lirae, as well on the ribs as in the interstices and in the subsutural excavation; last whorl rapidly attenuated below periphery, ending in a rather short, relatively very slender canal, which is nearly white and sculptured with spirals in the same manner as the rest of shell. Aperture oval, with a blunt angle above, peristome thin, fragile, the sinus according to growth-lines probably wide, but not very deep. Columellar margin regularly curved, but suddenly directed to the left, at the entrance of canal, which is contortedly directed to the left; columellar margin with a white layer of enamel, interior of aperture brown, smooth.

Alt. 62, lat. 20; apert. alt. $24^1/_2$, lat. $8^1/_2$ Mill.

This fine species is allied to *S. eurina* Smith (Ann. Mag. Nat. Hist. Ser. 7, Vol. IV, 1899, p. 239; Zool. Ill. Investigator, Moll. Pl. 9, fig. 4), but the folds are more numerous than in that species, which has a much thicker, straighter canal and a shorter spire, a thickened infrasutural margin. *S. margaritae* Smith, which I found somewhat similar in shape of spire and ribs, has a considerably longer last whorl, inclusive of canal. The specimen from Stat. 262 is a smaller, much worn shell, of somewhat doubtful character.

3. *Surcula supracostata* n. sp. Pl. XXVII, fig. 8.

Stat. 45. 7° 24′ S., 118° 15′2 E. Flores-sea. 794 M. Fine grey mud with some radiolariae and diatomes. 2 Spec.

Shell fusiform, with short canal, thin, shining, light yellowish-white. Nucleus wanting, remaining whorls 8, nearly regularly convex, very slightly exavated below the conspicuous but shallow suture in lower whorls, more so in upper ones. Sculpture consisting in the upper whorls of thick axial ribs, disappearing on the sixth whorl, which is 9-ribbed, the lower whorls are nearly smooth, but are sculptured under the lens by fine, strongly waved growth-lines, more conspicuous at irregular intervals; the whole shell crossed by very faint spirals, scarcely visible on the upper part of whorls, stronger on the lower part, having the appearance of crowded lirae on the canal. Last whorl regularly attenuated below, ending in a short, wide canal. Aper-

ture elongately oval, angular above, peristome with a wide but shallow sinus at the suture, then strongly protracted; columellar margin nearly straight, covered by a thin layer of enamel.

Alt. 32, lat. 11; apert. alt. 16, lat. 5 Mill.

I find no nearly allied species; this new one is remarkable for the difference in sculpture of the upper and lower whorls.

4. *Surcula timorensis* n. sp. Pl. XXVII, fig. 9.

Stat. 300. 10°48′.6 S., 123°23′.1 E. Timor-sea. 918 M. Fine grey mud. 1 Spec.

Shell elongately fusiform, with rather short canal, thin, dirty white. Nucleus wanting, remaining whorls 9, divided in 2 parts, of which the upper part is excavated, slightly convex in itself in last 2 whorls, the lower part of each whorl with rounded, oblique axial ribs, disappearing on last whorl, where there are only traces on ventral side, 11 in number on penultimate whorl. The finer sculpture consists of fine and coarse growth-striae and spiral ones, stronger below the suture, across the convex ribbed part, fainter near the base. Aperture elongated, angular above, peristome thin, with a wide, shallow sinus, just below the suture, then strongly protracted; columellar margin rather straight, with a faint fold at its upper half, not very conspicuous in the front view, with a rather thin, smooth layer of enamel; canal wide, slightly directed to the left. Last whorl regularly attenuated towards its base.

Alt. 53, lat. $15^1/_2$; apert. alt. 22, lat. $6^1/_2$ Mill.

This species is similar in shape to the preceding one, but is more slender, nearly the whole shell is ribbed, it is stronger and less shining, differs in spiral sculpture and by the columellar fold. This latter character makes its place in *Surcula* somewhat doubtful and reminds *Borsonia*, but the fold is rather blunt, like in some specimens of *Pleurotoma (Gemmula) congener* Smith (may it be accidental?) and in other respects it better agrees with many species of *Surcula*, so I have located it, though with some doubt, in this genus.

5. *Surcula pyramidalis* n. sp. Pl. XXVII, fig. 10.

Stat. 300. 10°48′.6 S., 123°23′.1 E. Timor-sea. 918 M. Fine grey mud. 1 Spec.

Shell fusiform, with strictly pyramidal spire and rather long, slender canal, thin, rather smooth, greyish-white. Nucleus wanting, remaining whorls 9, straight, the straight line only interrupted by a row of short, fold-like, oblique tubercles at lower part of whorls, somewhat fainter near aperture, 17 in number on penultimate whorl; the whorls have a second row of slightly oblong, bead-like tubercles, just below the suture, about 30 in number on last whorl; the spiral sculpture consists of impressed striae, crossing the lower half of basal row of tubercles on each whorl, and 2 or 3 just above the suture, the whole basal part of last whorl being spirally striated or grooved, the upper part of whorls is nearly smooth, but for a few scarcely visible spirals and fine and coarse flexuous growth-lines, becoming much coarser on canal, which by the intercrossing of this sculpture is slightly granular. Aperture angular above, ending below in a rather long, narrow, slightly contorted canal; peristome thin, with a wide, shallow sinus

above, strongly protracted in its median part, columellar margin strongly contorted, with a narrow, thin layer of enamel.

Alt. 45, lat. $15^3/_4$; apert. alt. 24, lat. 6 Mill.

This species is very peculiar by its shape and sculpture. I find no allied forms.

6. *Surcula brachytoma* n. sp. Pl. XXVII, fig. 11.

Stat. 284. 8°43′.1 S., 127°16′.7 E. Timor-sea. 828 M. Grey mud. 1 Spec.
Stat. 300. 10°48′.6 S., 123°23′.1 E. Timor-sea. 918 M. Fine grey mud. 1 Spec.

Shell elongately fusiform, with long spire and short canal, strong, white under a greyish epidermis. Nucleus wanting, remaining whorls 8, scarcely convex, their upper part excavated, separated by a conspicuous, waved suture; sculpture consisting of strong, rounded ribs, scarcely appreciable in the excavation, 11 in number on last whorl, below the suture are short folds, mainly corresponding to the ribs, with an intermediate one in the interstices; of spirals a stronger one at the limit between ribbed part and excavation, making the ribs slightly tubercled, and 2 or 3 fainter ones lower on; base of last whorl with about 10 grooves; moreover the shell is reticulated by numerous unequal, but always much finer spirals and growth-striae, Aperture oblong, angular above, ending below in a wide, short canal, slightly directed to the left; peristome strong, scarcely with a sinus above, which is uncommonly shallow, columellar margin moderately flexuous, with a rather thick, smooth layer of enamel.

Alt. 47, lat. $12^1/_2$; apert. alt. $17^1/_2$, lat. 4 Mill.

This species has much puzzled me; if the columella had been folded, I should have taken it for a *Mitra*; however Mr. Smith, who had the kindness to compare it, agrees with me that it is a *Surcula*, but not typical; the specimen from Stat. 284 is still very young, but evidently belongs to the same species. I know no species that is allied.

7. *Surcula obtusigemmata* n. sp. Pl. XXVII, fig. 12.

Stat. 76. 4°22′.1 S., 180°16′.9 E. Makassar-strait. 2029 M. Fine grey mud. 1 Spec.
Stat. 137. Channel between Makjan and Halmahera. 472 M. Fine, dark muddy sand. 2 Spec.
Stat. 271. 5°46′.7 S., 134°0′ E. Arafura-sea. 1788 M. Bluish green mud. 1 Spec.

Shell broadly fusiform, with pyramidal spire and rather long, slender canal, thin, yellowish-grey. Nucleus of largest specimen wanting, remaining whorls 6, not very convex, but apparently so by a row of coarse, obtuse, rounded beads, near the base of upper whorls and the periphery of last whorl, where they are 14 in number; a second row of small tubercles, rounded in upper whorls, having the character of oblique folds on lower ones, runs just below the deep suture, on a subsutural rib; lower on the shell is lirate, 2 faint lirae in the interstices of the peripheral beads, 2 strong ones below the beads of last whorl and numerous fainter ones on base and canal; the shell is covered with very fine growth-lines, last whorl strongly attenuated below. Aperture oval, angular above, ending in a rather long, narrow canal below; peristome thin, with a wide, rather shallow sinus above, then strongly protracted; columellar margin rather straight, directed to the left near and along the canal, with a thin layer of white enamel.

Alt. $22^1/_2$, lat. $9^1/_2$; apert. alt. $13^1/_2$, lat. $3^3/_4$ Mill.

The specimens from Stat. 137 are very small and notwithstanding the great difference in depth, seem to belong to this species, the sculpture being identical, their nucleus is yellowish-brown and consists of about $1^1/_2$ smooth, convex whorl.

This species, which in many respects resembles some other species of the section *Gemmula*, differs by its sinus *above* the shoulder, near the suture. In sculpture it has some resemblance with *Brachytoma subsuturalis* v. Martens.

8. *Surcula undosa* n. sp. Pl. XXVII, fig. 13.

Stat. 45. 7° 24′ S., 118° 15′.2 E. Flores-sea. 794 M. Fine grey mud with some radiolariae and diatomes. 1 Spec.

Shell elongately fusiform, with rather long canal, rather strong, yellowish-white. Apex wanting, remaining whorls $6^1/_2$, separated by a conspicuous, simple suture, convex, slightly excavated at their upper part. Sculpture consisting of numerous, very irregular, spiral striae, more conspicuous at the base of shell and canal, scarcely traceable in the excavation; upper whorls with a peripheral row of obtuse tubercles, which in the uppermost whorls have the character of ribs; these tubercles disappear on last whorl, which has only a more prominent keel-like spiral just below the excavation; the whorls are moreover crossed by numerous growth-lines, strongly curved and conspicuous in the excavation, oblique and sometimes rib-like in the lower part, which produces a wavy appearance of some parts of the shell. Aperture oblong, angular above, ending below in a rather long, broad canal, slightly directed to the left; peristome broken, but according to growth-lines with a deep sinus at the suture, then strongly protracted; columellar margin regularly curved, with a thin layer of enamel, slightly contorted along the canal.

Alt. 30, lat. 11; apert. alt. 15, lat. $4^1/_2$ Mill., the breadth of shell and aperture may have been more, if the peristome were complete.

I know no species which is nearly allied amongst the species from the indian ocean; Mr. Smith, who has kindly compared this and the following forms, could not identify them with any of the species, figured or unfigured, described by him in past years.

9. *Surcula variabilis* n. sp. Pl. XXVIII, fig. 1.

Stat. 178. 2° 40′ S., 128° 37′.5 E. Ceram-sea. 835 M. Blue mud. 12 Spec.

Shell elongately fusiform, with long canal, thin, yellowish-white. Whorls 8, of which about 2 (if normal) form a smooth, slightly inflated, reddish-brown nucleus; post-nuclear whorls subangular, concave in their upper part, separated by a conspicuous waved suture. Sculpture consisting of a row of tubercles at the periphery, sharper in upper whorls, more obtuse lower on, a row of granules, just below the suture, becoming scarcely visible in last whorl and entirely or nearly wanting in some specimens, the lower part of whorls with 1 or 2 rather faint, spiral lirae, the part of last whorl below the keel, with more or less conspicuous spirals, which vary from regular flat lirae to more irregular rib-like ones; in the latter case mainly 2 spirals are stronger; moreover there are extremely fine spiral striae and rather conspicuous growth-striae.

Aperture elongated, angular above, peristome thin, with a wide sinus above, then protracted, columellar margin nearly straight, only slightly concave above, ending in a rather long, narrow canal, covered with a thin layer of enamel. Interior of aperture smooth.

Alt. $18^1/_2$, lat. 6; apert. alt. 11, lat. $2^1/_4$ Mill.

Alt. $13^1/_2$, lat. 5; apert. alt. 7, lat. $1^5/_6$.

This species, at least the largest specimen, has in outline much resemblance with the West-Indian *S. syngenes* Wats. (Challenger Gastrop. Pl. 20, fig. 2) but is different in sculpture, though the tubercled keel is very like. If I had seen only 2 extreme specimens, I certainly should have been induced to describe 2 species, the nucleus is in several specimens loosely coiled, the spirals differ considerably in strength, the subsutural granules may be faint or entirely wanting, but these differences are intercrossing, so that I cannot trace a line of demarcation between them and so I left them together.

10. *Surcula pulchra* n. sp. Pl. XXVIII, fig. 2.

Stat. 212. 5° 54'.5 S., 120° 19'.2 E. Banda-sea. 462 M. Fine grey and green mud. 1 Spec.

Shell shortly fusiform, with short canal and pyramidal spire, rather thin, white. Nucleus wanting. Remaining whorls 6, angular, separated by a conspicuous, waved suture, their upper part excavated. Sculpture consisting of narrow axial ribs, 14 in last whorl, oblique in upper whorls, elegantly flexuous in last one and a row of oblique, short plicae, on a faint subsutural rib; the axial ribs end in rather sharp tubercles in their upper part at the limit of excavation; the ribs are crossed by narrow spiral lirae, 3 more conspicuous and some fainter ones on penultimate whorl, numerous, rather unequal ones on last whorl; in crossing the ribs, they produce still 2 fainter tubercles on the lirae of penultimate whorl; numerous ones on last whorl, but not on canal, where the ribs disappear; moreover the shell is crossed by very fine growth-striae, more conspicuous in excavation and fine spiral striae, of which about 2 in excavation. Aperture oval, angular above, ending in a short, wide canal below, slightly directed to the left; peristome thin, broken, according to growth-lines with a moderately wide and deep sinus, then protracted; columellar margin concave above, slightly tortuous at the canal, with a thin layer of enamel; interior of aperture smooth, white.

Alt. $17^1/_2$, lat. 8; apert. alt. 9, lat. 3 Mill.

This species is remarkable for its elegant sculpture.

11. *Surcula trophonoidea* n. sp. Pl. XXVIII, fig. 3.

Stat. 45. 7° 24' S., 118° 15'.2 E. Flores-sea. 794 M. Fine grey mud, with some radiolariae and diatomes. 1 Spec.

Stat. 178. 2° 40' S., 128° 37'.5 E. Ceram-sea. 835 M. Blue mud. 1 Spec.

Shell fusiform, with moderately long canal, thin, white. Nucleus eroded. Whorls 8, angular, separated by a conspicuous, slightly waved suture, upper part excavated. Sculpture consisting of narrow, oblique ribs, ending at the excavation with small, slightly pointed tubercles; the excavation is nearly smooth, but with short plicae on a faint subsutural rib, more conspicuous

on upper whorls, disappearing on last one and curved growth-lines, lower part of whorls with flat lirae, 6 in number on penultimate whorl, separated by narrow grooves; on the base of last whorl and canal, the grooves surpass the lirae in breadth; these lirae are waved and the whole shell is crossed by growth-lines, stronger at intervals. Aperture oblong, angular above, with a wide canal below; peristome thin, broken; according to growth-lines, with a shallow sinus, then slightly protracted; columellar side nearly straight, slightly concave above, a little directed to the left, along the canal, with a thin layer of enamel, not quite concealing the lirae of surface. Interior of aperture, smooth, white.

Alt. 16, lat. $5^3/_4$; apert. alt. $7^3/_4$, lat. 2 Mill.

This species has in outline and sculpture resemblance with some species of *Trophon*, but the sinus leaves no doubt about its belonging to the *Pleurotomidae*. The specimen from Stat. 178 is young.

12. *Surcula biconica* n. sp. Pl. XXVIII, fig. 4.

Stat. 212. 5° 54'.5 S., 120° 19'.2 E. Banda-sea. 462 M. Fine grey and green mud. 1 Spec.

Shell biconical, with short canal, rather thin, white. Whorls 8, of which about 2 form a convexly whorled nucleus, which seems to be at first smooth, the second whorl being obliquely costulate, postnuclear whorls separated by a conspicuous, distinctly waved suture, angular, excavated above, with rather narrow axial ribs, 14 in number on last whorl, scarcely indicated in excavation; the whorls are divided by a strong keel, consisting of depressed tubercles, forming the upper part of ribs, at the base of excavation; moreover there are 3 remote spirals on the scarcely contracted last whorl, which, in crossing the ribs, make them beaded, and 2 or 3 very faint, plain ones on canal; in the upper whorls the uppermost of these lirae is nearly covered by the suture and causes the conspicuous waves, otherwise the shell is nearly smooth, but for very fine growth-lines, more conspicuous in the excavation. Aperture oblong, angular above, with a short open canal below; peristome thin, broken, according to growth-lines with a shallow sinus above, then slightly protracted; columellar margin nearly straight, with a thin layer of enamel.

Alt. $8^3/_4$, lat. $4^1/_2$; apert. alt. $4^1/_2$, lat. $1^3/_4$ Mill.

This species is peculiar by its shape and sculpture. I find nothing like it amongst the species of *Surcula*.

13. *Surcula celebensis* n. sp. Pl. XXVIII, fig. 5.

Stat. 88. 0° 34'.6 N., 119° 8'.5 E. Makassar-strait. 1301 M. Fine grey mud. 4 Spec.

Shell small, sub-biconical, with short canal and subgradate spire, thin, subpellucid, white. Whorls $6^1/_2$, of which nearly 2 form a smooth, shining, convexly-whorled nucleus; subsequent whorls angular, excavated above, separated by a conspicuous, irregularly waved suture, with a rather strong rib just below it, with short bead-like folds, lower part of whorls with oblique ribs, 15 in number on last whorl, tubercled at their upper part below the excavation, more-

over the basal part of whorls is crossed by faint spirals, 2 in number on penultimate, about 10 in slightly contracted last whorl, of which latter the upper ones are more conspicuous, bead-like in crossing the ribs, those on the canal plain, lastly the whorls are crossed by growth-lines. Aperture elongately oval, angular above, with a short, wide canal below; peristome thin, broken, according to growth-lines with a wide, rather deep sinus above, then considerably protracted, columellar side concave above, slightly tortuous below, with a conspicuous, appressed layer of enamel.

Alt. $8^1/_2$, lat. $3^1/_2$; apert. alt. $3^3/_4$, lat. $1^3/_4$ Mill.

Though small, I think this form to be distinct and not to be identified with the young of any described species.

14. *Surcula sp.*

Stat. 178. 2° 40′ S., 128° 37′.5 E. Ceram-sea. 835 M. Blue mud. 2 Spec.

These specimens are nearly allied to the preceding species, they are a little narrower and the infrasutural rib is less developed and has only few traces of the folds, as the specimens are very young, I think it is not advisable to name or describe them, they may belong to a slight variety of the former.

15. *Surcula Nierstraszi* n. sp. Pl. XXVIII, fig. 6.

Stat. 271. 5° 46′.7 S., 136° 0′ E. Arafura-sea. 1788 M. Bluish green mud. 1 Spec.

Shell broadly fusiform, with rather short spire, thin, light greyish-white. Nucleus wanting, remaining whorls nearly 6, of which the upper one is likewise eroded, angularly convex, slightly excavated below the deep suture. Sculpture consisting of slightly oblique, narrow ribs, arcuated in the excavation, 15 in number in penultimate whorl, with blunt tubercles about the median part of upper whorls and on shoulder of last whorl, with beads at their upper extremities; just below the suture, the shell is covered with fine growth-striae and spiral lirae, these lirations being faint in the excavation, stronger and crowded in lower part of whorls, more remote on canal; last whorl attenuated below, passing without marked limit in the rather short canal. Aperture oval, slightly angular above, with a rather narrow canal below; peristome broken, according to growth-striae with a very shallow sinus below the suture; columellar margin concave above, directed to the left along the canal, with a thin layer of enamel.

Operculum thin, corneous, with a terminal nucleus at the left side.

Alt. $25^1/_4$, lat. $12^1/_4$; apert. alt. 14, lat. 5 Mill.

Radula with 2 rows of teeth, in about 12 transverse rows, each tooth *(c)* with a rather sharp point and a deep sinus at its basal margin, separating 2 unequal digitations.

The shell was of rather obscure nature, scarcely any trace of a sinus was visible and if at all by the aid of the growth-lines, it is very unsignificant, the operculum is not characteristic for the genus; after I had seen the radula, no doubt was left about its belonging to the *Pleurotomidae* and by its sinus it nearest approaches *Surcula*, though the teeth resemble those of

*Pleurotoma* s. str., as figured by TROSCHEL; as the radula of only few species is known, I think the characters of the shell may provisionally decide.

### Clavosurcula n. gen.

Shell clavate, with a very broad body and long, slender canal, according to growth-striae with a wide, deep sinus, occupying nearly the whole breadth of upper whorls; nucleus smooth, swollen; operculum wanting.

Type: *Clavosurcula Sibogae* n. sp.

I could not refer this specimen to any known genus, its peculiar shape, which reminds that of *Steiraxis* Dall., is still too much different to locate it in that genus. In some degree it seems to be allied to *Surcula*, and so I have provisionally located it near that genus; unfortunately the operculum and soft parts are wanting; though the shell has the appearance of being not adult, it is too remarkable to neglect it.

1. *Clavosurcula Sibogae* n. sp. Pl. XXVIII, fig. 7.

Stat. 45. 7° 24′ S., 118° 15′.2 E. Flores-sea. 794 M. Fine grey mud with some radiolariae and diatomes. 1 Spec.

Shell clavate, with convex spire, attenuated towards the apex, with long, slender canal, thin, pellucid, white. Whorls 8, of which about $1^1/_2$ form a smooth, swollen nucleus, post-nuclear whorls keeled, the keel running in the 2 uppermost post-nuclear whorls a trifle above the linear suture, in the following whorls it is coalescing with the suture, on the last whorl it has the appearance of a blunt, rounded rib, with a slight groove above it; the upper whorls are nearly straight, the last 2 ones slightly convex, last whorl rapidly contracted below the keel. Sculpture consisting of numerous raised spiral striae, rather fine in upper part of whorls, very fine on a narrow zone just above the keel, coarser on the keel, much coarser on the basal part of last whorl and on the canal, which is long and slender. Aperture rhomboid, with a moderately sharp angle above and an obtuse angle at the keel; peristome thin, broken, according to growth-lines with a wide, deep sinus above, then strongly protracted. Columellar margin nearly straight above, along the body-whorl, then concave, upper part at the canal straight, then strongly contorted to the left, with a thin layer of enamel, stronger at upper part of canal; interior of aperture smooth, but apparently striated by the transparency of the shell.

Alt. 38, lat. 20; apert. alt. 16, lat. $7^1/_2$ Mill.

### Mangilia Risso.

1. *Mangilia terpnisma* Melvill & Standen.

MELVILL & STANDEN. Proc. Zool. Soc. Lond. 1901, p. 443, Pl. 24, fig. 8.

Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand very fine. 2 Spec.
Stat. 193. Sanana-bay, East coast of Sula Besi. 22 M. Mud. 1 Spec.
Stat. 285. Near South coast of Timor. 34 M. Limit between mud and coral, Lithothamnion. 1 Spec.

The specimens vary in size but agree in shape, sculpture and colour-markings.

var. *abyssicola* n. var.

Stat. 88. 0° 34'.6 N., 119° 8'.5 E. Makassar-strait. 1301 M. Fine grey mud. 1 Spec.

Smaller than the type, having only a length of $5^3/_4$ Mill., thinner, with less developed sculpture and quite transparently white, but agreeing in all its essential characters.

2. *Mangilia apollinea* Melvill.

Melvill. Proc. Mal. Soc. Lond. Vol. VI, p. 166, Pl. 10, fig. 20.

Stat. 261. Elat, West coast of Great Kei-island. 27 M. Mud. 1 Spec.

Mr. Melvill, who examined this specimen, says it is in better condition and more full-grown than his Gulf of Oman specimens, but otherwise it differs only very little.

3. *Mangilia cavernosa* Reeve.

Reeve. Proc. Zool. Soc. Lond. 1846, p. 60.
—— Conch. Ic. Vol. III, Mangelia, fig. 8.
Tryon. Man. of Conch. Vol. VI, p. 251, Pl. 21, fig. 26.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 3 Spec.
Stat. 260. Near North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 4 Spec.

Slightly varying in number of ribs but agreeing in other particulars.

4. *Mangilia butonensis* n. sp. Pl. XXVIII, fig. 8.

Stat. 204. Between islands of Wowoni and Buton, northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 1 Spec.

Shell elongately fusiform, with high spire and moderately long canal, smooth, shining, pellucid, white. Whorls 8, of which $3^1/_2$ seem to form a convexly-whorled nucleus, of these the upper 2 are smooth, the rest with crowded axial ribs; post-nuclear whorls with more remote ribs, 7 or 8 on penultimate whorl, each rib with a small point near its middle, giving an angular appearance to these whorls, though the interstices are nearly regularly rounded, upper part of whorls very faintly crenulate, base of last whorl with very faint spiral striae, more conspicuous on ribs and a few stronger ones on canal. Aperture oblong, narrow, slightly angular above, below with a rather wide canal; peristome sharp, with a shallow sinus above and a strong rib at some distance behind its margin, columellar margin slightly concave above, directed to the left below, with a thin layer of enamel, interior of aperture smooth.

Alt. $11^1/_2$, lat. 4; apert. alt. $5^1/_4$, lat. 1 Mill.

This species has some resemblance with *M. polita* Hinds, but the ribs are less regularly placed, the canal is less slender and in that species the peristome is plain, though this may depend on age.

5. *Mangilia rufostrigata* n. sp. Pl. XXVIII, fig. 9.

Stat. 159. 0° 59'.1 S., 129° 48'.8 E. Halmahera-sea. 411 M. Coarse sand. 2 Spec.

Shell shortly fusiform, with short canal, smooth, shining, yellowish-white, with more or less conspicuous traces of red-brown streaks on ribs; whorls 7, of which a little more than one forms a convex, smooth nucleus; post-nuclear whorls separated by a deep, waved suture, convex, angular, slightly excavated at their upper part, with rather strong, rounded, oblique, axial ribs, 11 in number on last whorl, that behind the peristome stronger; these ribs are pointedly tubercled about their median part, just below the excavation in upper whorls, at the shoulder of last whorl, on this latter the ribs are fainter towards the base, otherwise the shell is nearly smooth, but for very faint, remote spirals, a little more conspicuous on canal, and fine growth-lines. Aperture óval, angular above, with a wide, short canal below; peristome thin, broken, with a shallow sinus above. Columellar margin concave, slightly directed to the left below, with a rather thin layer of enamel, stronger near its base.

Alt. 10, lat. $4^1/_4$; apert. alt. 4, lat. $1^3/_5$ Mill.

6. *Mangilia hexagonalis* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 118.
—— Conch. Ic. Vol. I, Pleurotoma, fig. 293.
TRYON. Man. of Conch. Vol. VI, p. 251, Pl. 20, fig. 1.

Stat. 258. Tual, Kei-islands. 22 M. Lithothamnion, sand and coral. 1 Spec.

The specimen is very large, being 11 instead of 8 Mill. in length, but otherwise exactly agrees with REEVE's figure and description. A close spiral striation, mentioned by TRYON, seems to have been overlooked by REEVE.

7. *Mangilia multigranosa* n. sp. Pl. XXVIII, fig. 10.

Stat. 47. Bay of Bima near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
Stat. 260. Near North point of Nuhu Jaan. Kei-islands. 90 M. Sand, coral and stones. 1 Spec.

Shell elongately pyramidal, with short canal, strong, yellowish-brown. Whorls 9 or 10, of which the uppermost is eroded, followed by about 2 closely ribbed ones; subsequent whorls slightly convex, with a deep suture, hexagonal by 6 continuous, rounded ribs. Sculpture consisting of numerous spirals, of which the peripheral one and 2 or 3 lower ones are more prominent, at all there are on penultimate whorl of largest specimen about 10 stronger spirals and 3 intermediate ones in each interstice, of these spirals the median one is again stronger than the other ones (in the smaller specimen this arrangement is less conspicuous); each of these spirals is closely covered with a row of granules, having the character of compressed squamae on the principal lirae, this sculpture extends also over the whole last whorl and canal. Aperture short, oval, rounded above, with a short, narrow canal below; peristome rather blunt, with a shallow sinus above and a strong rounded rib externally, 3 tooth-like tubercles in its interior, of which the uppermost is the largest; columellar margin nearly straight, but slightly concave above, directed to the left below, with a strong layer of enamel, only appressed above, free below, interiorly with a strong tubercle above and 2 flat plaits about its median part, each plait divided by a groove.

Alt. 12, lat. $4^5/_6$; apert. alt. 4, lat. 1 Mill.

Alt. $8^1/_2$, lat. 3; apert. alt. $3^1/_4$, lat. $^3/_4$ Mill.

This species has much resemblance with the preceding one and with *M. obeliscus* Reeve, but is easily distinguished by its very beautiful, elaborate sculpture; the smallest specimen, though full-grown, as may be seen by its peristome, has the columellar plaits less developed.

8. *Mangilia Fairbanki* Nevill.

NEVILL. Journ. As. Soc. Beng. 1875, p. 85, Pl. 7, fig. 2.
TRYON. Man. of Conch. Vol. VI, p. 270, Pl. 22, fig. 48.

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.

The specimen is not in good condition, being worn and not quite developed, correspondingly somewhat doubtful, but it agrees well with a specimen from Bombay, which Mr. MELVILL had the kindness to send for comparison.

9. *Mangilia septemcostata* n. sp. Pl. XXVIII, fig. 11.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 2 Spec.

Shell fusiform, with rather long canal, strong, light yellowish-brown, with faint red-brown bands, interrupted by the ribs, one rather broad band, just below suture, the second below the periphery, a third near the base of last whorl, the base of canal being likewise tinted. Whorls about $7^1/_2$, of which $2^1/_2$ form the convexly-whorled nucleus, of which about the first whorl is smooth, the other ones are closely ribbed; subsequent whorls slightly convex, each with 7 continuous ribs, which have a small sharp point a little above the conspicuous, waved suture and are faintly crenulated, especially on lower part of last whorl; interstices smooth, but for a faint spiral, connecting the costal points and a few spirals on the canal. Aperture oblong, sharply angular above, with a rather long, narrow canal below. Peristome not developed, probably with a shallow sinus above, columellar margin nearly straight, slightly directed to the left along canal.

Alt. 9, lat. $3^2/_5$; apert. alt. $4^3/_4$, lat. 1 Mill.

Though the specimens are not full-grown, the characters seemed to be peculiar enough to describe the species; of course the measurements may be altered, if complete specimens are afterwards procured.

var. *tenuis* n. var.

Stat. 260. Near North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.

Shell thin, of a hyaline, whitish colour, with the points of the ribs a little more remote from lower suture, but otherwise so much the same in number of ribs and in other particulars of sculpture, that I think this form has only varietal rank, perhaps depending on greater depth. It is likewise juvenile.

10. *Mangilia multicostata* n. sp. Pl. XXVIII, fig. 12.

Stat. 260. Near North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 1 Spec.

Shell fusiform, with pyramidal spire and short canal, thin, smooth, shining, yellowish-white with red-brown blotches in 3 more or less interrupted bands. Whorls 9, of which about 2 form a smooth, convexly-whorled nucleus. Post-nuclear whorls sharply angular, their upper part, occupying about $^2/_3$ of each whorl, slightly concave. Sculpture consisting of numerous, sharp axial ribs, 16 in number on last whorl, with pointed tubercles at the angle, connected by a rather faint spiral; moreover there are very faint growth-lines and spiral striae, more conspicuous on the base of last whorl, especially on the ribs, and a few stronger ones on the canal. Aperture oval, angular above, with a short, broad canal below; peristome broken, probably with very shallow sinus above, columellar margin concave above, directed to the left below along the canal, with a thin layer of enamel.

Alt. 11, lat. 4; apert. alt. $4^1/_2$, lat. $1^1/_4$ Mill.

Though this shell is evidently not quite adult, the thin peristome being broken, it seemed to differ from all known species, so I have described it; it resembles in many respects the var. *tenuis* of the preceding species, but cannot be united on account of the number of ribs, which is more than double, moreover the canal is quite different, being short and broad.

11. *Mangilia elegantissima* Melvill & Standen.

MELVILL & STANDEN. Ann. Mag. Nat. Hist. Ser. 7, Vol. XII, 1903, p. 319, Pl. 23, fig. 23.

Stat. 274. 5° 28'.2 S., 134° 53'.9 E. Near Aru-islands. 57 M. Sand and shells, stones. 1 Spec.

I owe the identification of this species to Mr. MELVILL, without his assertion I should not have recognized it, as the number of axial ribs in the Siboga-specimen, seems to be considerably more numerous than in the quoted figure.

12. *Mangilia savuensis* n. sp. Pl. XXVIII, fig. 13.

Stat. 306. 8° 27' S., 122° 54'.5 E. Savu-sea. 247 M. Sandy mud. 1 Spec.

Shell elongately fusiform, with rather short canal, rather strong, yellowish-white, with traces of red-brown bands (bleached). Whorls scarcely 9, of which about 3 form a convexly-whorled nucleus, of these about the upper one is smooth, the rest at first faintly, then strongly ribbed, with numerous elegant ribs and traces of a keel near the base of visible part of last nuclear whorl. Subsequent whorls angularly convex, separated by a deep, strongly waved suture. Sculpture consisting of rounded, not continuous, axial ribs, 7 in number on last whorl, crossed by spirals, of which a faint crenulated one, just below the suture, another strong one at the periphery, making the ribs slightly tubercled, and 3 spirals below it on penultimate whorl, 16 on last whorl and canal, moreover a few very faint spirals above the periphery and numerous growth-lines. Aperture elongately oval, with a sharp angle above and a rather wide canal below; peristome broken, probably with a rather shallow sinus above; columellar margin nearly straight, with a thin layer of enamel.

Alt. 9, lat. 3; apert. alt. $3^1/_2$, lat. 1 Mill.

I know no species which is nearly allied to this new one. Mr. MELVILL says it is allied

to *Mangilia thalia*, described (Proc. Zool. Soc. Lond. 1901, p. 445, Pl. 24, fig. 10) as a *Clathurella*, but though it may have some resemblance, it differs in many particulars.

13. *Mangilia crassicingulata* n. sp. Pl. XXIX, fig. 1.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.

Shell pyramidal, with very short canal, thin, semipellucid, reddish-brown with a white zone at the shoulder, a white canal, ribs and part of spirals. Whorls 11, of which about 3 form the nucleus, with very deep suture, the uppermost whorl smooth, the other ones with a conspicuous keel; post-nuclear whorls very convex, with a deep, waved suture. Sculpture consisting of remote, rounded, axial ribs, 9 in number on last whorl and numerous spiral lirae, 2 narrow ones below the suture, 5 strong ones on penultimate whorl, of which the upper 2 border the white zone and are white themselves, the 5th is very strong, but falls in the suture of upper whorls, forming the strong spiral rib on last whorl, which suggested the name, accompanied by a narrow one; below this the shell is rapidly contracted, with only faint spirals, but divided by the ribs, which produce beautiful excavations in their interstices (reminding those of *Cath. cavernosa*); canal with a few stronger lirae; moreover the shell is sculptured by conspicuous growth-lines, as well on the ribs as in their excavated interstices and a few intermediate lirae, producing on the whole shell a fine cancellation. Aperture oval, rounded above, with a short, open canal below, peristome thin, with a rather deep sinus above, columellar margin nearly straight, with a conspicuous layer of enamel, not appressed, leaving an umbilical chink; interior of aperture with a few lirae.

Alt. $14^1/_2$, lat. 5; apert. alt. $3^5/_6$, lat. $1^1/_2$ Mill.

This species has some resemblance with a very elongate *Phos senticosus*, but is of course quite different. Perhaps it might as well be located in *Clathurella* on account of its sculpture and aperture, but it appears that it is more allied to some species of *Mangilia*.

14. *Mangilia halmaherica* n. sp. Pl. XXIX, fig. 2.

Stat. 137. Between Makjan and Halmahera. 472 M. Fine, dark muddy sand. 4 Spec.

Shell fusiform, with rather short canal, pellucid, white. Whorls about 8, of which about 3 form the nucleus, which is large, convexly-whorled, at first smooth, then axially ribbed; post-nuclear whorls angular, concave above. Sculpture consisting of rather narrow axial ribs, about 12 or 13 on last whorl, crossed by spirals, of which one more or less strong one, just below the suture, another at the angle and one or two on the lower part; last whorl with canal, with about 12 spirals, those on the upper whorls and 5 upper ones on last whorl are sharply tubercled in passing the ribs, those on the contracted part of last whorl and canal, more plain; moreover the whole shell is covered with fine growth-lines. Aperture elongately-oval, angular above, with a rather short, wide canal below; peristome thin, with a moderately deep sinus above, columellar margin slightly concave above, directed to the left below.

Alt. $7^3/_4$, lat. 3; apert. alt. $3^1/_2$, lat. 1 Mill.

Three of the specimens are quite alike, differing only in size, on account of age, so I have described them as the type; the fourth is much more developed in sculpture, so much that I was in doubt if it ought not to be separated, the spirals are stronger, there is a spiral in the excavation, on the contrary the last whorl has at all only 12 spirals, besides that below the suture, which is weaker, and I find very fine spirals in the interstices, the last rib before the peristome is strongly developed; as it is however not impossible that the other specimens are not quite developed, I think the other differences may be individual; unfortunately the nucleus of the fine specimen is worn, the outer layer being lost, so I could not make out, if it has been identical.

## Cithara Schumacher.

1. *Cithara marginelloides* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1846, p. 60.
—— Conch. Ic. Vol. III, Mangelia, fig. 6.
TRYON. Man. of Conch. Vol. VI, p. 261, Pl. 24, fig. 22.

Stat. 323. Sangkapura-roads, Bawean-island. 12 M. Mud. 1 Spec.

TRYON unites *C. columbelloides* Reeve with this species, but BOETTGER (Nachrichtsbl. der Deutschen Mal. Gesellsch. 1895, p. 19) has clearly pointed out the differences between the two species.

2. *Cithara fusiformis* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1846, p. 61.
—— Conch. Ic. Vol. III, Mangelia, fig. 19.
TRYON. Man. of Conch. Vol. VI, p. 268, Pl. 23, fig. 2.

Stat. 299. Buka- or Cyrus-bay, South coast of Rotti-island. 34 M. Mud, coral and Lithothamnion. 1 Spec.

The spire of the only specimen is broken, so the shell has only 4 whorls and the identification is somewhat doubtful.

3. *Cithara stromboides* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1846, p. 63.
—— Conch. Ic. Vol. III, Mangelia, fig. 33.
TRYON. Man. of Conch. Vol. VI, p. 264, Pl. 23, fig. 1.

Stat. 37. Sailus ketjil, Paternoster-islands. 27 M. and less. Coral and coralsand. 1 Spec.

4. *Cithara lyrica* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1846, p. 61.
—— Conch. Ic. Vol. III, Mangelia, fig. 20.
TRYON. Man. of Conch. Vol. VI, p. 268, Pl. 24, fig. 21.
SMITH. Zool. Coll. "Alert", p. 41, Pl. 4, fig. H (*cylindrica* var.).

Stat. 133. Lirung, Salibabu-island. Up to 36 M. Mud and hard sand. 1 Spec.

SMITH, who unites this form to *C. cylindrica*, has given (l. c.) a full description and fine figure; as the only specimen belongs no doubt to the broad var. *lyrica*, I have recorded it with this specific name.

5. *Cithara lyra* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1846, p. 59.
—— Conch. Ic. Vol. III, Mangelia, fig. 3.
TRYON. Man. of Conch. Vol. VI, p. 257, Pl. 24, fig. 14 (*citharella* var.).

Stat. 213. Saleyer. Reef. 1 Spec.

The specimen has 9 beadlike teeth on the interior of peristome and 9 wrinkles on the columella, of which the lower ones are likewise beadlike, but Mr. SMITH writes me that this is sometimes the case; perhaps it depends on age.

## Lienardia Jousseaume.

1. *Lienardia Aliciae* Melvill & Standen.

MELVILL & STANDEN. Journ. of Conch. 1895, p. 95, Pl. 2, fig. 15.
HEDLEY. Proc. Linn. Soc. N. S. Wales, 1909, Vol. 34, p. 454, Pl. 43, fig. 88.

Stat. 43. Pulu Sarassa, Postillon-islands. Up to 36 M. Coral. 1 Spec.
Stat. 99. North-Ubian. 16—23 M. Lithothamnion-bottom. 1 Spec.
Stat. 164. 1°42′.5 S., 130°47′.5 E. Near West New-Guinea. 34 M. Sand, small stones and shells. 1 Spec.

Differing in size, but agreeing in other particulars with specimens received of Mr. TOMLIN from Lifu and with the fine figure of HEDLEY. I have employed the generic name *Lienardia* instead of *Glyphostoma*, for the reasons emitted by BOETTGER (Nachrichtsbl. der Deutschen Mal. Gesellsch, 1895, p. 49).

2. *Lienardia spurca* Hinds.

HINDS. Moll. Voy. "Sulphur", p. 17, Pl. 5, fig. 14.
REEVE. Conch. Ic. Vol. I, Pleurotoma, fig. 312.
TRYON. Man. of Conch. Vol. VI, p. 273, Pl. 15, fig. 37.
SMITH. Zool. Coll. "Alert", p. 39, Pl. 4, fig. F, F 1.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 285. Near South coast of Timor. 34 M. Limit between mud and coral. Lithothamnion. 1 Spec.
Stat. 303. Haingsisi, Samau-island. 36 M. Lithothamnion. 1 Spec.

The specimen from Stat. 51 is very small but characteristic, that from Stat. 285 is large (14 Mill.) and remarkable for numerous fine spirals between the principal ones. If constant, this form should deserve a varietal name. Though REEVE makes no mention of it, his figure seems to be magnified, for SMITH (l. c.) records a specimen of 18 Mill., which "considerably exceeds the dimensions of HINDS' type, another of 12 Mill. in length; REEVE's figure nearly reaches 23 Mill., his *Pl. rava*, (l. c. fig. 250) which according to SMITH, should be a synonym,

being magnified to twice its natural length, likewise nearly 23 Mill., is consequently only a little more than 11 Mill.

3. *Lienardia granulifera* n. sp. Pl. XXIX, fig. 3.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.

Shell fusiform, with pyramidal spire and short canal, strong, dark red-brown, with a yellowish zone on last whorl, quite covered by the suture in upper whorls and with whitish apex. Whorls $9^1/_2$; nucleus consisting of 2 convex, light brown whorls, of which the upper one is smooth and shining, the second has a prominent keel; of the post-nuclear whorls, nearly 2 are whitish, the whorls are convex, separated by a deep, waved suture, ascending towards the aperture. Sculpture consisting of rounded ribs, 11 in number on last whorl, that preceding the peristome very strong, and spiral lirae on the whole shell, 10 in number on penultimate whorl, about 30 on last whorl and canal, of which 5 below the suture more crowded and fainter, 5 on the median part of ribs (6 on last whorl) are prominent and eventually a few intermediate very faint ones; moreover faint growth-lines are visible and the whole shell except the nucleus is covered with close-set, flattened granules. Aperture oblong, with a deep, narrow sinus, slightly wider and rounded at its top, narrowed by a thick, incurved, enamellous, white rim on the body-wall; peristome strong, serrated by small denticles, about 9 in number and intermediate ones, only visible on the internal side and a second row of about 9 whitish tubercles, a little more in the interior; columellar margin lighter coloured than shell, nearly straight, with 7 transverse folds. Interior of aperture smooth, light violet. Canal straight, narrow at its proximal end, wider below.

Alt. $13^1/_2$, lat. $5^1/_4$; apert. alt. $5^1/_2$, lat. $1^1/_2$ Mill.

Still allied to *L. spurca* by its characters of aperture, especially by the sinus and by the arrangement of its spirals, but quite peculiar by its granular sculpture.

4. *Lienardia peristernioides* n. sp. Pl. XXIX, fig. 4.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.
Stat. 260. Near North point of Nuhu Jaan, Kei-islands. 90 M. Sand, coral and shells. 2 Spec.

Shell ovately fusiform, with rather short spire and short canal, strong, whitish, light reddish-brown between the ribs, especially below the suture and a faint band of the same colour below the periphery of last whorl. Whorls 9, of which 3 form a brownish nucleus, with convex whorls, the two lower ones are keeled. Post-nuclear whorls short, convex, with a deep, waved suture; sculpture consisting of rounded axial ribs, 11 or 12 in number on last whorl, crossed by more or less thick spirals, 7 narrow ones below suture, followed by six coarser ones on penultimate whorl, about 28 on last one, besides a few intermediate lirae; moreover the shell is covered with excessively fine spiral lines, which, under the microscope, prove to be composed of rows of granules, much finer than in the preceding species. Aperture oval, with a rather narrow, deep sinus above and a short, open canal below; peristome strong, subserrated and internally with a few denticles, being the ends of internal lirae; columellar margin concave above,

straight below, with a tubercle and rim above, bordering and rendering narrow the sinus, and until 9 shorter and longer folds; interior of apertural margins more or less stained with reddish-brown.

Alt. 13, lat. $6^1/_2$; apert. alt. $5^1/_2$, lat. $1^5/_6$ Mill.

Allied to the preceding species, but more ventricose, with much finer granular sculpture and different colour; it is still more remote from *L. spurca*. The measurements are taken from the largest specimen from Stat. 51; the largest one from Stat. 260 has a length of $9^1/_2$ Mill., but otherwise agrees in every essential character; the smallest specimen has a length of $8^1/_2$, a breadth of $3^3/_5$ Mill. and is consequently more slender. In colour it resembles some species of *Peristernia*.

5. *Lienardia rugosa* Mighels?

MIGHELS. Proc. Bost. Soc. Nat. Hist., Vol. II, 1845, p. 23.
TRYON. Man. of Conch. Vol. VI, p. 297, Pl. 19, fig. 57.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.

This specimen is a dead, somewhat worn shell of small size (length $5^1/_2$ Mill.), its identification consequently a little doubtful.

## Clathurella Carpenter.

1. *Clathurella philippinensis* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1843, p. 184.
—— Conch. Ic. Vol. I, Pleurotoma, fig. 109.
TRYON. Man. of Conch. Vol. VI, p. 287, Pl. 16, fig. 81.

Stat. 133. Lirung, Salibabu-island. Reef. 1 Spec.

2. *Clathurella cavernosa* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 118.
—— Conch. Ic. Vol. I, Pleurotoma, fig. 303.
TRYON. Man. of Conch. Vol. VI, p. 290, Pl. 17, fig. 10.

Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 2 Spec.
Stat. 116. West of Kwandang-bay-entrance. 72 M. Fine sand with mud. 1 Spec.

The specimen from Stat. 116 and one from Stat. 114 have their normal length of about 6 Mill., the other one from Stat. 114, of 8 Mill. and approaches in this respect *Cl. spelaeodea* Herv. (Journ. de Conch. 1897, p. 98, Pl. 2, fig. 4); as the specimens are bleached, I cannot clearly see the colour, but the whorls are more angular than in HERVIER's figure, and agree in this respect with that of REEVE.

3. *Clathurella Polyhymnia* Melvill.

MELVILL. Proc. Mal. Soc. Lond. Vol. VI, 1905, p. 165, Pl. 10, fig. 17.

Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coralbottom. 1 Spec.

The Siboga-specimen is slightly more ventricose than a Gulf of Oman-specimen, which Mr. MELVILL kindly sent me for comparison; the sculpture seems to be a little stronger, the outer lip is more developed; this latter may depend on age, otherwise the shell is so much the same, that its differences may be individual, so I have not applied a varietal name to this unique specimen.

4. *Clathurella japonica* Melvill.

MELVILL. Proc. Mal. Soc. Lond. Vol. I, 1895, p. 227, Pl. 14, fig. 11.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.

The specimen has the peristome not developed. Mr. MELVILL, to whom I owe the identification of this doubtful specimen, says that it seems to agree in all essential features.

5. *Clathurella virgo* n. sp. Pl. XXIX, fig. 5.

Stat. 100. 6° 11′ N., 120° 37′.5 E. Sulu-archipelago. 450 M. Dead coral. 1 Spec.

Shell ovate, with short canal, thin, pellucid, white. Whorls 6, of which 2 convex ones form the nucleus, which is microscopically, spirally lirate and crossed by still finer axial striae, which make the apex cancellated; post-nuclear whorls very convex, separated by a deep suture, accompanied by an excavation of the upper part of whorls. Sculpture consisting of rounded axial ribs, narrower than the interstices, 19 in number on last whorl, ending at the excavation, not reaching the base of last whorl, and rather sharp, spiral lirae, 10 in number on penultimate whorl, besides a few much fainter ones in the excavation; moreover very fine growth-lines, stronger in the excavation and extremely fine granules, cover the whole shell. Aperture oval, angular above, below with a short, wide canal; peristome thin, with a rather shallow sinus, columellar margin concave above, directed to the left along the canal, covered with a thin layer of enamel; interior of aperture smooth.

Alt. $7^{3}/_{4}$, lat. 4; apert. alt. $4^{1}/_{4}$, lat. $1^{1}/_{2}$ Mill.

This fine species has no conspicuous features, it is a typical deepwater form, the sculpture of the apex however is peculiar.

6. *Clathurella rufoapicata* n. sp. Pl. XXIX, fig. 6.

Stat. 178. 2° 40′ S., 128° 37′.5 E. Ceram-sea. 835 M. Blue mud. 1 Spec.

Shell ovate, with short canal, thin, pellucid, white, with rufous apex. Whorls about $7^{1}/_{2}$, (uppermost top damaged) of which about $3^{1}/_{2}$ form the rufous nucleus, which is angular by a strong keel, and crossed by axial riblets; post-nuclear whorls very convex, with a deep suture and an excavation below it; sculpture consisting of rounded, axial ribs, narrower than the interstices, 18 in number on last whorl, ending at the excavation and disappearing on base of last whorl, and spiral lirae, of which 4 principal ones on penultimate whorl, which make the ribs slightly tubercled, and a few finer ones in the excavation and in many of the interstices; moreover fine

growth-lines, strong in the excavation are visible. Aperture roundedly oval, bluntly angular above, below with a rather narrow, short canal; peristome broken, probably with a shallow sinus above, (according to growth-lines), columellar margin concave above, then straight, directed to the left along the canal.

Alt. $7^1/_5$, lat. $3^1/_2$; apert. alt. $3^2/_5$, lat. $1^1/_2$ Mill.

Though this species resembles in shape the preceding one, its whorls are more convex, the number of spirals is much less, but above all, the comparison of the apical whorls excludes any idea that the two forms possibly might be identical. Though the specimen is not complete, its peculiar characters of the nucleus may justify its naming and describing it.

### Daphnella Hinds.

1. *Daphnella Euphrosyne* Melvill & Standen.

MELVILL & STANDEN. Ann. Mag. Nat. Hist. Ser. 7, Vol. XIII, 1903, Pl. 23, fig. 12.

Stat. 204. Between islands of Wowoni and Buton, northern entrance of Buton-strait. 75—94 M. Sand with dead shells. 2 Spec.

I owe the identification of these specimens, which are not quite developed, to Mr. MELVILL.

2. *Daphnella aureola* Reeve.

REEVE. Proc. Zool. Soc. Lond. 1845, p. 113.
—— Conch. Ic. Vol. I, Pleurotoma, fig. 212.
TRYON. Man. of Conch. Vol. VI, p. 302, Pl. 26, fig. 77.

Stat. 315. East of Sailus Besar, Paternoster-islands. Up to 36 M. Coral and Lithothamnion. 1 Spec.

This specimen is likewise young.

3. *Daphnella supracancellata* n. sp. Pl. XXIX, fig. 7.

Stat. 114. Kwandang-bay-entrance. 75 M. Hard sand, very fine. 1 Spec.

Shell elongately-fusiform, with long, slender spire and short canal, strong, yellowish-grey. Whorls 11, of which about 3 form a convexly-whorled nucleus, with the common criss-cross lines; post-nuclear whorls slightly convex, separated by a linear, indistinct suture, bordered by a narrow excavation. Sculpture consisting of rounded ribs, on a little more than 4 following whorls, disappearing on lower whorls; they are all crossed by spiral lirae, 9 in number on penultimate whorl, of which one borders the suture, another the excavation, about 30 on last whorl and canal, besides a few intermediate ones on this last whorl, scarcely appreciable on the upper ones; these lirae produce a cancellation on the upper 4 post-nuclear whorls (hence the name); moreover there are numerous finer spiral lines between the principal ones, making the whole shell spirally striated, crossed by more or less conspicuous growth-striae, strongly incised at intervals, closer on last part of last whorl, making the principal lirae nearly beaded.

Aperture oblong, narrow above, at the rather deep sinus and below at the canal; peristome rather strong, much contracted at the limit of canal, interiorly with short grooves, corresponding to the lirae and subdenticulate in the interstices of these grooves, columellar margin slightly concave above, then nearly straight, with a thin layer of enamel, which is faintly multiplicate. Interior of aperture smooth, bluish white, the peristome bordered by a greyish zone.

Alt. $23^3/_4$, lat. 6; apert. alt. $10^1/_2$, lat 2 Mill.

This fine species reminds *D. Ceciliae* Melv. & St. (Proc. Zool. Soc. Lond. 1901, p. 447, Pl. 24, fig. 13), but is larger, much more elongate and different in many particulars of sculpture, also in colour.

4. *Daphnella elegantissima* n. sp. Pl. XXIX, fig. 8.

Stat. 310. 8° 30′ S., 119° 7′.5 E. Flores-sea. 73 M. Sand with few pieces of dead coral. 1 Spec.

Shell ovately-fusiform, with sharp spire and short canal, moderately strong, yellowish, with a faint red-brown band at the base of last whorl. Whorls 9, of which about $1^1/_2$ form a nucleus with obscure sculpture, post-nuclear whorls convex, separated by a linear suture, with a slight excavation below it. Sculpture consisting of remote, rounded ribs, 10 in number on penultimate whorl, stronger on the upper ones, and numerous, raised, axial striae, as well on the ribs as in the interstices; this sculpture is crossed by numerous spiral lirae, which are fainter in the excavation and of which some, (4 on penultimate whorl) are stronger; in crossing the ribs these stronger lirae produce tubercles, strongest on upper whorls, nearly disappearing on last one; by this sculpture the whole shell has a coarse cancellation, with a finer intermediate one. Aperture subquadrangular, with a rather narrow sinus, comparatively deep for the genus; peristome but slightly convex above, suddenly roundedly contracted below, forming an angle with the canal, which is short and wide; columellar margin concave at its upper part, then nearly straight, with a thin layer of enamel. Interior of aperture smooth, its margin with short grooves, corresponding to the lirae, base of interior and interior of canal faintly red-brown.

Alt. $15^1/_4$, lat. $5^1/_2$; apert. alt. 7, lat. 2 Mill.

This species, which has a very fine sculpture, is, according to Mr. Smith, allied to but not identical with *D. elegans* Pse., a species quite unknown to me. Its characters much remind those of *Clathurella*; without Mr. Smith's advice, I should have located it in that genus.

5. *Daphnella celebensis* n. sp. Pl. XXIX, fig. 9.

Stat. 71. Makassar and surroundings. Up to 32 M. Mud, sand with mud, coral. 1 Spec.

Shell ovately-fusiform, with very short canal, strong, yellowish-grey, with a few of the lirae reddish-brown. Whorls 9 or 10, (topmost one broken) of which the upper one is nearly smooth, but with traces of criss-cross lines. Post-nuclear whorls convex, slightly angular at some distance from the deep, crenulated suture. Sculpture consisting of numerous axial riblets, 32 on penultimate whorl, crossed by numerous spirals, 10 on penultimate whorl, of which the upper one, bordering the suture, is finely crenulated by the upper ends of ribs and finely spirally

striated, one of the lirae at the shoulder is the most prominent and makes the whorls angular, the other ones are subequal, with, in many cases, intermediate lirae; on the points of intercrossing the ribs are beaded; moreover the whole shell is covered with growth-lines. Aperture oblong, with a shallow sinus above, and a very short, wide canal below; peristome strong, crenulated, arched, below with a small sinus at the limit of canal, interiorly with short grooves, columellar margin slightly concave above, with a thin layer of enamel.

Alt. $16^1/_2$, lat. 5; apert. alt. 7, lat. 2 Mill.

This fine species resembles in shape and colour *D. hyalina* Reeve (Conch. Ic. Pleurotoma, fig. 269), but is quite different by its relatively strong, cancellated sculpture.

6. *Daphnella subuloides* n. sp. Pl. XXIX, fig. 10.

Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coralbottom. 1 Spec.

Shell fusiform, with short canal, rather solid, yellowish, with irregular, faint, red-brown streaks. Whorls probably 8 (uppermost whorl wanting) of which a nuclear one is convex, with faint, partly interruptes riblets. Post-nuclear whorls convex, separated by a linear, faintly waved suture, accompanied by a narrow excavation, with a few faint lirae; lower part slightly angular at limit of excavation, cancellated by numerous, narrow ribs, about 18 in number on penultimate whorl, crossed by spirals of nearly equal strength, 9 in number on penultimate whorl, which make the ribs beaded in crossing them; moreover intermediate lirae and crowded growth-striae produce a micro-cancellation. Aperture oblong, with a narrow, rather deep sinus above; peristome blunt, slightly arched and crenulate, strongly contracted below and forming a blunt angle at the limit of canal, exteriorly with a rounded varix, bearing 3 of the ribs, interiorly with a few short lirae, of which those bordering the upper sinus and limit of canal are stronger. Columellar margin slightly concave above, nearly straight below, with a thin layer of enamel and a strong tubercle at the entrance of upper sinus. Interior of aperture light brown, with a white margin.

Alt. 13, lat. $4^1/_3$; apert. alt. $6^1/_2$, lat. $1^1/_2$ Mill.

This species is allied to *D. subula* Reeve, but according to Mr. Smith, who compared it with the type, differing by a longer canal, shorter whorls etc. It has likewise in my opinion much resemblance with *Clathurella*.

7. *Daphnella supercostata* Smith.

Smith. Ann. Mag. Nat. Hist. Ser. 5, Vol. X, 1882, p. 301.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.

Originally described from Japan.

8. *Daphnella suluensis* n. sp. Pl. XXIX, fig. 11.

Stat. 105. 6° 8′ N., 121° 19′ E. Sulu-archipelago. 275 M. Coral-bottom. 1 Spec.

Shell elongately oval, with short canal, solid, yellowish-white, brownish behind peristome.

Nucleus wanting, remaining whorls nearly 7, convex, separated by a deep, undulated suture. Sculpture consisting of remote, rounded, axial ribs, more conspicuous on upper whorls, nearly disappearing on last one, 18 in number on penultimate whorl and conspicuous growth-lines on ribs and interstices; the whole shell is crossed by unequal spirals, of which about 5 on penultimate one are more prominent. Aperture subquadrangularly oval, with a blunt angle above and a short, wide canal below; peristome moderately thin, undulated, with a shallow sinus just below suture, angular at the entrance of canal; columellar margin nearly straight in its lower part. Interior of aperture light brownish, with a bluish tint in the depth.

Alt. $16^1/_4$, lat. $6^1/_4$; apert. alt. $7^1/_2$, lat. $2^3/_4$ Mill.

Allied to *D. albibalteata* Reeve (Conch. Ic. Pleurotoma, fig. 84), but the new species is much more slender, the whorls are less convex, more elongated, the ribs, especially on last whorl, are much fainter and I see no trace of the white belt in the new species.

9. *Daphanella perfragilis* n. sp. Pl. XXIX, fig. 12.

Stat. 76. 4° 22'.1 S., 118° 16'.9 E. Makassar-strait. 2029 M. Fine grey mud. 1 Spec.
Stat. 178. 2° 40' S., 128° 37'.5 E. Ceram-sea. 835 M. Blue mud. 1 Spec.

Shell fusiform, with moderately long canal, very thin, fragile, hyaline, white. Whorls 8, of which about $2^1/_2$ form the nucleus, with convex whorls and criss-cross sculpture. Post-nuclear whorls convex, separated by a deep, linear suture, the upper ones are strongly angular at the shoulder, the angle however is fainter on lower whorls and nearly disappears on last one; a second prominent liration is visible on upper whorls, but becomes likewise fainter, moreover the shell is crossed by numerous, fine, raised, spiral striae and finer axial ones, producing a fine cancellation; on the canal the spirals are stronger. Aperture oval, angular above, with a rather short, moderately wide canal below; peristome broken, according to growth-lines with a shallow sinus above, roundedly-angular at the entrance of canal. Columellar margin convex at the body whorl, then nearly straight, slightly curved to the left, with a thin layer of enamel.

Alt. $18^1/_2$, lat. $7^1/_2$; apert. alt. $9^3/_4$, lat. about 3 Mill.

Allied to *D. dea* Melv. (Proc. Mal. Soc. Lond. Vol. VI, p. 167, Pl. 10, fig. 24), but the new shell is much larger, the canal is longer and I see nothing of the angularity of whorls, neither in the description nor in the figure; the specimen from Stat. 76 is a younger, worn shell, but still conspicuously angular.

## Pleurotomella Verrill.

Under this name I have united some shells, which agree in having a dark nucleus, sculptured with criss-cross lines, strongly contrasting with the rest of the shell; this group has been united as a section of *Mangilia* and of *Daphnella* by Dall and by Tryon. Dall, in 1908 gives generic rank to *Pleurotomella*, but unites *Gymnobela* as a subgenus, for species with short spire, smaller than the average *Pleurotomella* and erects a new group *Phymorhynchus* on characters of the animal. As the Siboga-specimens contain no soft parts, I am unable to state if the animals are blind, as *Pleurotomella* ought to be, nor if they have the shape of

muzzle recorded for *Phymorhynchus*. So I am in the less agreeable position of describing several new species, leaving to subsequent researches to decide if they are rightly classified.

1. *Pleurotomella biconica* n. sp. Pl. XXIX, fig. 13.

Stat. 156. 0° 29'.2 S., 130° 5'.3 E. Near Waigeu-island. 469 M. Coarse sand and broken shells. 1 Spec.

Shell biconical, rather strong, white. Whorls 9, of which 4 form a yellowish-brown nucleus, with moderately convex whorls, of which about 2 upper ones smooth, 2 with curved, raised striae, stronger just below the suture, crossed in their lower part by very fine, oblique striae. Subsequent whorls angular, the upper part slightly excavated, basal part nearly straight in outline; this lower part has rather inconspicuous axial ribs, nearly disappearing in last whorl, tubercled at the angle below the excavation; otherwise the axial sculpture consists of rather strong, nearly rib-like, much curved, raised striae in the excavation and very fine growth-lines; of spirals there are 4 on penultimate whorl, below and besides that accompanying the peripheral angle, and numerous spirals on last whorl, with eventually intermediate ones; moreover the shell is covered with excessively small granules, only visible under a strong lens. Last whorl at first convex below angle, then moderately contracted. Aperture oblong, with a sharp angle above and a compressed, gutter-like canal below; peristome broken, sinus, judging after growth-lines, large but shallow, occupying the excavated space; columellar margin with a rather strong layer of enamel, strongest at the short canal, where it forms an oblong umbilical pit.

Alt. $10^1/_4$, lat. $4^1/_4$; apert. alt. 5, lat. $1^3/_4$ Mill.

2. *Pleurotomella affinis* n. sp. Pl. XXX, fig. 1.

Stat. 178. 2° 40' S., 128° 37'.5 E. Ceram-sea. 835 M. Blue mud. 1 Spec.

Shell biconical, thin, white. Whorls about 10, of which about 4 form a red-brown nucleus, with convex whorls, of which about $1^1/_2$ upper ones smooth, the other ones with angular riblets, strongest near upper suture, crossed in their lower part by fine, oblique striae. Subsequent whorls with a broad, concave upper part and a much narrower lower part. The sculpture consists of 2 conspicuous spirals, just below the suture, less distinctly developed on last whorl, 5 much fainter ones in the excavation; this latter is bordered by a rather strong keel, which makes the whorls angular; moreover a second keel at some distance, with 2 faint intermediate ones on penultimate whorl; the part below the excavation on last whorl is lirate over its whole surface. The upper, excavated part of whorls is crossed by rather distant curved riblets, which, in crossing the infrasutural lirae, produce small beads. At last the whole shell is covered with fine growth-striae and excessively fine granules. Last whorl convex, strongly attenuated towards its base. Aperture obliquely oblong, sharply angular above, ending below in a short, compressed, gutter-like canal; peristome broken, probably with a wide, shallow sinus, columellar margin concave, with a thin layer of enamel.

Alt. 9, lat. $3^3/_4$; apert. alt. $3^3/_4$, lat. $1^1/_2$ Mill.

This species is no doubt nearly allied to the preceding one, but differs in shape, being

more attenuated towards its base and considerably in sculpture, as will be seen by comparing the descriptions.

3. *Pleurotomella gradata* n. sp. Pl. XXX, fig. 2.

Stat. 159. 0° 59'.1 S., 129° 48'.8 E. Halmahera-sea. 411 M. Coarse sand. 1 Spec.

Shell fusiform, gradate, moderately strong, white. Whorls 8 (uppermost broken), of which 2 form a reddish-brown nucleus, with convex whorls (their number probably will have been 4 of which 2 are wanting), sculptured by curved riblets, crossed by oblique finer ones in the lower part, which is consequently finely reticulated. Subsequent whorls convex, angular, gradate by a conspicuous excavation of the upper part, lower part perpendicular. Spirals consisting of a keel and a few, rather strong, slightly flattened lirae on the lower part, 4 in number on penultimate whorl and 2 narrow ones at the base of excavation, just above the keel; last whorl with numerous stronger, flat lirae, eventually divided by a very fine groove, and some intermediate ones. The axial sculpture consists of numerous fine growth-striae and curved riblets in the upper part of excavation, less pronounced on last whorl, not quite extending to the keel. Last whorl convex, regularly attenuated towards the rather long canal. Aperture elongate, angular above, ending in a long, gutter-like canal below. Peristome broken, probably with a moderately wide, shallow sinus. Columellar margin concave, with a rather strong layer of enamel along the canal.

Alt. $10^1/_2$, lat. $4^1/_4$; apert. alt. $5^1/_2$, lat. $1^1/_2$ Mill.

Still allied to the preceding 2 species, but less biconical in shape, with more slender canal and very different in particulars of sculpture.

4. *Pleurotomella ceramensis* n. sp. Pl. XXX, fig. 3.

Stat. 178. 2° 40' S., 128° 37'.5 E. Ceram-sea. 835 M. Blue mud. 2 Spec.

Shell shortly fusiform, transparently white. Whorls 8, of which 4 form a yellowish-brown nucleus, with convex whorls, the uppermost broken, the other ones with curved riblets, crossed by oblique, slightly finer ones, over a large part of their breadth. Subsequent whorls rather convex, angular, with a broad, excavated, upper part, a rather narrow, nearly straight, lower part, this lower part with narrow, obtuse, axial ribs, occupying also the lower part of excavation, about 17 in number on last whorl, where they are fainter near aperture; these ribs are crossed by 2 strong spirals on upper 2 whorls, 3 on penultimate and numerous ones on last whorl, the upper spiral forming a keel, which is tuberculiferous by the intercrossing of the ribs; moreover there are fainter spirals in some of the interstices and just above the keel, in the basal part of excavation, 3 in number in penultimate whorl; the excavation is crossed by curved riblets or plicae in its upper part, and the whole shell is covered with fine growth-striae. Last whorl regularly attenuated below, with a rather short canal. Aperture angular above and at the end of keel, with a probably shallow sinus, below the suture; peristome broken; columellar margin with a thin layer of enamel; canal a little broken, probably gutter-like.

Alt. $6^1/_4$, lat. 3; apert. alt. $3^1/_2$, lat. $1^1/_4$ Mill.

This species, according to Mr. MELVILL, is allied to *D. eulimenes* Melv. (Journ. of Mal. 1904, Vol. XI, p. 84, Pl. 8, fig. 15), but different; the Siboga-shell is considerably less slender, more angular, the excavation is much larger and the sculpture coarser.

5. *Pleurotomella clathurellaeformis* n. sp. Pl. XXX, fig. 4.

Stat. 178. 2° 40′ S., 128° 37′.5 E. Ceram-sea. 835 M. Blue mud. 2 Spec.

Shell elongately-fusiform, thin, transparent, white. Whorls about 9, of which about 3 form a reddish-brown nucleus, composed of convex whorls, with riblets in different directions, but the nucleus being rather worn, the sculpture is not prominent. Subsequent whorls convex, with a narrow, excavated part below the deep suture; the excavation is crossed by numerous, slightly curved, axial riblets. The convex part of whorls is sculptured by strong, rounded, oblique, axial ribs, 11 in number on last whorl, crossed by strong spirals, 6 in number on penultimate whorl, of which 4 are stronger and are especially prominent on the crest of axial ribs; these ribs disappear on the base of last whorl, which, as well as the rather short canal is lirate. Aperture oval, angular above, ending below in a rather narrow, slightly curved, compressed canal; peristome thin, with a narrow, shallow sinus above; columellar margin concave, with a thin layer of enamel, directed to the left near the canal.

Alt. $8^1/_4$, lat. 3; apert. alt. $3^1/_4$, lat. 1 Mill.

As the nucleus was not in perfect condition, the generic position seemed to be somewhat doubtful, but the contrast in colour, between nucleus and rest of shell, the riblets below the suture and other characters it has in common with the preceding species, have at last given the decision.

6. *Pleurotomella extensaeformis* n. sp. Pl. XXX, fig. 5.

Stat. 212. 5° 54′.5 S., 120° 19′.2 E. Banda-sea. 462 M. Fine grey and green mud. 1 Spec.

Shell ovate, with short spire, rather strong, ivory-white. Whorls 8 or 9 (upper part eroded) of which 3 (or 4) form a reddish-brown, convexly-whorled nucleus, of which about 2 lower ones are sculptured by slightly curved riblets, crossed in their lower part by fine, oblique striae. Subsequent whorls scarcely excavated, the place of the excavation being occupied for a great deal by a rather strong, subsutural spiral, adorned by strong, laterally compressed beads, 22 in number on last whorl; below this spiral remains a rather large groove. Basal part of whorls with narrow, a little oblique ribs, 15 in number on last whorl, ending below the groove in short tubercles, which are connected by a second spiral; the space between the ribs is sculptured by fine and coarse growth-lines and faint spiral striae, becoming stronger and groovelike towards the base of last whorl, and have the character of lirae on the short, large canal; last whorl regularly convex, until the canal. Aperture oval, with a moderately sharp angle above and a wide, slightly gutter-like canal below; peristome broken, probably with a very shallow sinus (judging after growth-lines); columellar margin with a thin layer of enamel, concave. Canal directed to the left.

Alt. $8^1/_2$, lat. $4^1/_2$; apert. alt. 3, lat. $1^1/_2$ Mill.

This species is very peculiar, it has some resemblance with *Pleurotomella (Gymnobela) extensa* Dall (Bull. Mus. Comp. Zool. Vol. XVIII, 1889, p. 126, Pl. 10, fig. 2), but differs much by the spiral sculpture, which seems not to exist in that species, which is moreover more slender.

7. *Pleurotomella abbreviata* n. sp. Pl. XXX, fig. 6.

Stat. 178. 2°40′ S., 128°27′.5 E. Ceram-sea. 835 M. Blue mud. 2 Spec.

Shell small, shortly biconical, thin, transparently white. Whorls about 8 (nucleus slightly eroded), of which 4 form a brownish (bleached) nucleus, of apparently the same character as in the preceding species. Subsequent whorls (excepted last one), practically existing only of the excavation, which is sculptured by curved, raised striae and is bordered, just below the suture, by a conspicuous, spiral liration, with laterally compressed, fold-like beads, becoming fainter towards the aperture, and, just above the suture, a second row of depressed, slightly pointed tubercles, forming a keel below the excavation of last whorl, about 12 in number on that whorl, where they form the top of short, oblique, axial ribs; lower part of last whorl, with about 15 lirae and a few intermediate ones. Moreover fine growth-striae and excessively small granules are visible on the whole shell, by the aid of a strong lens; last whorl regularly attenuated towards its base, only slightly convex, with a very short, broad canal. Aperture obliquely oblong, with a sharp angle above and a narrow gutter-like canal below; peristome thin, with a wide, moderately deep sinus above; columellar margin slightly concave above, straighter and directed to the left along the canal, with a thin layer of enamel, thicker below.

Alt. 6, lat. $3^1/_4$; apert. alt. 3, lat. 1 Mill.

This species is quite different from any of the preceding or elsewhere known ones by its shape and sculpture.

8. *Pleurotomella pyriformis* n. sp. Pl. XXX, fig. 7.

Stat. 178. 2°40′ S., 128°37′.5 E. Ceram-sea. 835 M. Blue mud. 1 Spec.

Shell pyriform, with acute spire, ivory-white, thin, fragile. Whorls 8, of which 4 form a light-brown nucleus, with convex whorls, remote riblets on the upper part, oblique, and less stronger ones, which cross each other, in the lower part. Subsequent whorls scarcely convex, with only a trace of being divided into 2 parts on the upper two; however, the upper part is marked with elegantly curved, conspicuous riblets, being slightly bead-like just below the suture, on a narrow, infrasutural spiral; lower part of last whorl, with numerous, faint, spiral striae, stronger on the rather long, slender canal; moreover the lower whorls display elegantly waved growth-lines. Aperture oval, with a sharp angle above and a narrow gutter-like canal below, which is directed to the right. Peristome much broken, probably with a wide, shallow sinus above; columellar margin with a very thin layer of enamel, slightly stronger along the canal.

Alt. $7^1/_2$, lat. $3^3/_4$; apert alt. $4^3/_4$, lat. $1^1/_2$ Mill.

The generic position of this shell seems to be somewhat doubtful, but the characters

of spire and aperture agree with those of the preceding ones, the sculpture is likewise more in accordance with the present genus, than with *Daphnella*.

9. *Pleurotomella dubia* n. sp. Pl. XXX, fig. 8.

Stat. 178. 2°40′ S., 128°37′.5 E. Ceram-sea. 835 M. Blue mud. 2 Spec.

Shell fusiform, transparently white, thin. Whorls about 9, of which about 3 form a reddish-brown nucleus, with crossed riblets. Subsequent whorls angular, the upper part excavated, with remote, faint, axial plicae below the suture, nearly lacking in last whorl; lower part with rounded, more or less oblique ribs, ending above, just below the excavation, in bluntly pointed tubercles, 13 or 14 on last whorl, otherwise this lower part is smooth, but for numerous growth-striae and a few, scarcely appreciable, spiral striae; near the base of last whorl however and especially on the rather long, narrow canal, numerous spirals make their appearance. Aperture elongately ovate, with a sharp angle above, a narrow gutter-like canal below; peristome thin (broken), according to growth-lines with a wide, shallow sinus above; columellar margin rather straight, with a thin layer of enamel.

Alt. $16^{3}/_{4}$, lat. $6^{1}/_{2}$; apert. alt. $8^{1}/_{4}$, lat. $2^{3}/_{4}$ Mill.

Alt. $14^{1}/_{2}$, lat. $5^{1}/_{2}$; apert. alt. $7^{1}/_{5}$, lat. 2 Mill.

The smallest specimen is in the best condition and has served for description, the largest one has the aperture less angular, which may be caused by having been broken and repaired; the characters are not very prominent, but the species is certainly different from the former ones.

var. *circumstriata* n. var.

From the same locality, a heavily broken shell, with the lower half of whorls spirally grooved, 7 grooves on penultimate whorl, has been dredged; the specimen is larger, but otherwise I see no differences of much importance, the more so, as the two specimens of the type are even not perfectly identical; as a large portion of last whorl is broken away, the shell appears to be much more slender, but if complete, this difference would disappear for a good deal, so I preferred to mention it only as a variety; the nucleus, though eroded, allows to trace the characteristic sculpture; length 24 Mill.

## Spergo Dall.?

1. *Spergo Sibogae* n. sp. Pl. XXX, fig. 9.

Stat. 262. 5°53′.8 S., 132°48′.8 E. Near Kei-islands. 560 M. Solid bluish grey mud. 1 Spec.

Shell fusiform, rather strong, yellowish-brown. Nucleus wanting, remaining whorls 9, moderately convex, slightly excavated below the conspicuous but shallow suture. Sculpture consisting of remote, oblique, axial ribs, conspicuous in upper whorls, fainter lower on, disappearing on back of last whorl, forming tubercles below the excavation, which in upper whorls bears short plicae, just below the suture; the lower part of whorls is crossed by very numerous

spiral striae, conspicuous in upper whorls, faint on last one, but stronger towards and on the canal. Aperture elongately-oval, angular above, with a wide canal below; peristome damaged, according to the fine growth-lines, with a very shallow sinus above, then regularly arched; columellar margin concave above, then nearly straight, at last slightly directed to the left, covered with a layer of enamel, which is thin above, stronger below. Interior of aperture smooth.

Alt. 54, lat. 18; apert. alt. $27^1/_2$, lat. $7^1/_2$ Mill.

A rather doubtful species, which I thought might still belong to *Surcula*, but Mr. SMITH, who compared it in the British Museum, thinks it may be a *Spergo*, a group described by DALL (Proc. U. S. Nat. Mus. Vol. XVII, 1894, p. 680), with 2 Species (l. c. Pl. 24, fig. 1, 2, Pl. 31, fig. 11); unfortunately the nuclear whorls, which ought to be of a *Sinusigera*-character, with oblique, reticular, curved sculpture is wanting, as well as the soft parts, with or without an operculum. Of the two species described and figured, it resembles more *S. daphnelloides* Dall in shape and sculpture. I have followed Mr. SMITH's advice, though, under these unfavorable circumstances, with considerable doubt.

## Daphnellopsis n. gen.

Shell elongately-fusiform, with smooth nucleus, aperture elongated, with a strong varix exteriorly, behind the peristome, which, in some measure is double, the internal peristome with a horizontal upper margin, a denticulated outer one, with a wide shallow sinus at the point of junction and an angle at the entrance of the short, slightly upturned canal; columellar margin slightly concave above, with a conspicuous layer of enamel.

Type: *D. lamellosa* Schepman.

1. *Daphnellopsis lamellosa* n. sp. Pl. XXX, fig. 10.

Stat. 306. 8° 27′ S., 122° 54′.5 E. Savu-sea. 247 M. Sandy mud. 5 Spec.

Shell same characters as genus, whitish. Whorls 6, of which about $1^1/_2$ form a convex, smooth, slightly inclining nucleus; post-nuclear whorls convex, separated by a deep suture. Sculpture consisting of numerous, lamellose ribs, 26 in number on last whorl, besides a sharp one behind peristome; these ribs are waved by the intercrossing of spiral lirae, 4 principal and a few intermediate ones on penultimate whorl, more lamellose and prominent near the aperture and at the base and canal of last whorl, where they amount to about 16; true peristome strong, with 6 denticles below upper sinus and another at some distance, at the entrance of canal, the so-called exterior peristome, consists of many layers around upper sinus. Columellar margin with the layer of enamel thin and appressed above, thick and nearly loosened below.

Alt. 9, lat. 3; apert. alt. $4^1/_2$, lat. $1^2/_5$ Mill.

Alt. 8, lat. 3; apert. alt. $3^4/_5$, lat. $1^1/_5$ Mill.

First measurements of the largest specimen with nucleus, but no developed inner peristome, second ones of specimen without nucleus, but with the peristome quite complete.

This remarkable species is one of the puzzles of the Siboga-collections. It is impossible to locate it with any certainty in one of the groups of Gastropods; the sinus makes it probable

that it is a Pleurotomoid, and in this case, nearest allied to *Daphnella* or *Clathurella*; its very shallow sinus pleads for the alliance with *Daphnella*; only the soft parts could probably give light, but unfortunately they are wanting.

### **Mitromorpha** A. Adams.

1. *Mitromorpha lirata* A. Adams.

A. Adams. Ann. Mag. Nat. Hist. Ser. 3, Vol. XV, 1865, p. 322.

Stat. 50. Bay of Badjo, West coast of Flores. Up to 40 M. Mud, sand and shells. 1 Spec.

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Several other specimens belong to several groups of the *Pleurotomidae*, but are too young or bad or both for description; only in few cases I have mentioned them, but in view of the doubtful generic position, I have omitted the majority, which manner is certainly no loss to science.

# APPENDIX.

Here follow a few species, which have been found in tubes or boxes and have been overlooked, partly because they were concealed in the aperture of larger species, partly by their real affinity not having been recognized, when the collection was provisionally arranged in larger and smaller groups; so for instance those now recorded as *Trophon*, which, with their damaged peristomes made the impression of belonging to the *Pleurotomidae*, until a closer examination, brought to light the total absence of the characteristic sinus.

## PART I.

p. 36, after N° 1 add.:

2. *Cyclostrema euchilopteronoides* n. sp. Pl. XXX, fig. 11.

Stat. 285. Near South coast of Timor. 34 M. Limit between mud and coral, Lithothamnion. 1 Spec.

Shell quoit-shaped, strong, light yellowish-white. Whorls 4, rounded, separated by a deep suture; spire scarcely raising above last whorl, first whorl vitreous, nearly smooth, last whorl and a small part of penultimate one, with numerous, raised, spiral striae on a zone at the suture; at the rounded periphery and in the wide umbilicus they are coarser than on the two intermediate zones, where they are extremely fine; they are crossed by growth-lines, stronger towards aperture. Aperture transversely oval, peristome thick, upper margin protracted in a peculiar trigonal wing. Umbilicus wide, pervious, funnel-shaped.

Alt. $1^1/_2$, lat. $4^1/_2$; apert. alt. (perpendicularly) $1^1/_2$, lat. 2 Mill.

This species, by its winged peristome, reminds *C. euchilopteron* Melv. (Ann. Mag. Nat. Hist. Ser. 7, Vol. XIII, 1903, p. 292, Pl. 20, fig. 7), especially if seen from below, but is quite different by its wanting of keels, other particulars of sculpture, size etc.

## PART IV.

p. 254 (8), to N° 16, *Oliva ispidula* Linné, add.:

Stat. 179. Kawa-bay, West coast of Ceram. 36 M. Stony bottom. 1 Spec.

p. 329 (83) to N° 1, *Columbella pardalina* Lamarck, add.:

*N. A. M. Isle of Enkhuizen near Batavia. 1 Spec.

This specimen is nearly entirely white, with only one row of black spots below the suture.

p. 360 (94), after N° 3, add.:

4. *Trophon? floresianus* n. sp. Pl. XXX, fig. 12.

Stat. 45. 7° 24′ S., 118° 15′.2 E. Flores-sea. 794 M. Fine grey mud with some radiolariae and diatomes. 1 Spec.

Shell fusiform, thin, white, with moderately long spire and canal. Whorls about 7, nucleus and subsequent whorls eroded, remaining 4 whorls convex, angular, separated by a deep suture. Sculpture consisting of axial ribs, rather remote on upper whorls, 19 in number on penultimate whorl, nearly disappearing on last one and numerous, raised striae or growth-lines, crossed by spirals, of which a subsutural one is beaded, as well as those on the angle of keel; above this latter are a few faint spirals and more numerous ones on lower part of whorls, 4 on penultimate, about 20 on last whorl and canal, faintly beaded or crenuliferous at the points of intercrossing. Aperture elongately-oval, with a rather blunt angle above, ending below in a rather narrow canal; peristome broken, columellar margin slightly concave above, straight below and along the canal, with a thin layer of enamel.

Alt. $18^1/_2$, lat. $7^1/_4$; apert. alt. about $9^1/_2$, lat. about $3^3/_4$ Mill.

This is one of the *Pleurotoma*-like species, which I should hardly have described, were it not for the considerable depth at which it has been dredged.

5. *Trophon? celebensis* n. sp. Pl. XXX, fig. 13.

Stat. 212. 5° 54′.5 S., 129° 19′.2 E. 462 M. Fine grey and green mud. 1 Spec.

Shell fusiform, with conical spire and moderately long canal, greyish (dead?). Whorls 9, of which about 3 form a convexly-whorled nucleus, with numerous, axial riblets; post-nuclear whorls convex, strongly keeled at periphery. Sculpture consisting of narrow, oblique, axial ribs, protracted towards the deep suture, 20 in number on last whorl, and rather faint, spiral lirae, 5 in number on penultimate whorl, about 20 on last whorl and canal, with a few intermediate ones; on the points of intercrossing the ribs are elongately beaded; on the uppermost of lirae or keel, they form nearly blunt spines; zone between keel and suture without lirae. Aperture elongately-oval, angular above, ending in a rather narrow canal below, peristome much broken, columella nearly straight, with a conspicuous layer of enamel.

Alt. $16^1/_2$, lat. about $7^1/_2$; apert. alt. $8^1/_2$, lat.? (too much broken).

Same observation as for the preceding species; however, this shell, with its protracted top of ribs, might perhaps prove to be a Pleurotomoid, if the soft parts could be consulted.

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As I have omitted to choose types for the two new genera, erected by me in Part I, I now wish to repair that omission, in accordance with the rules of nomenclature.

pag. 53, after description of the genus *Solariellopsis*, add.: type: *Solariellopsis calcarata* Schepm.

pag. 61, after description of the genus *Guttula*, add.: type: *Guttula Sibogae* Schepm.

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# PLATE XXV.

Fig. 1. *Conus filicinctus* n. sp.
Fig. 2. *Conus mucronatus* Reeve, var. *Sibogae* n. var.
Fig. 3. *Conus delicatus* n. sp.
Fig. 4. *Conus elegans* n. sp.
Fig. 5. *Terebra exiguoides* n. sp.
Fig. 6. *Terebra Macgillivrayi* Smith.
Fig. 7. *Terebra turrita* Smith.
Fig. 8. *Terebra multistriata* n. sp.
Fig. 9. *Terebra undulata* Gray var. *laevior* n. var.
Fig. 10. *Terebra tiurensis* n. sp.
Fig. 11. *Terebra tricincta* Smith.
Fig. 12. *Terebra Archimedes* Deshayes, *c.* sculpture more enlarged.
Fig. 13. *Terebra virgo* n. sp.

Ch. Dumont del.

Fa. P. W. M. Trap impr.

# PLATE XXVI.

Fig. 1. *Pleurotoma truncata* n. sp.
Fig. 2. *Pleurotoma Sibogae* n. sp.
Fig. 3. *Drillia subangusta* n. sp.
Fig. 4. *Drillia rubidofusca* n. sp.
Fig. 5. *Drillia pagodaeformis* n. sp.
Fig. 6. *Drillia Aesopus* n. sp.
Fig. 7. *Drillia rubrozonata* n. sp.
Fig. 8. *Drillia rufolineata* n. sp.
Fig. 9. *Drillia kwandangensis* n. sp.
Fig. 10. *Drillia timorensis* n. sp.

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# PLATE XXVII.

Fig. 1. *Drillia batjanensis* n. sp.
Fig. 2. *Drillia Sibogae* n. sp.
Fig. 3. *Drillia suluensis* n. sp.
Fig. 4. *Drillia madurensis* n. sp.
Fig. 5. *Borsonia Smithi* n. sp.
Fig. 6. *Ancistrosyrinx pulchella* n. sp.
Fig. 7. *Surcula Melvilli* n. sp.
Fig. 8. *Surcula supracostata* n. sp.
Fig. 9. *Surcula timorensis* n. sp.
Fig. 10. *Surcula pyramidalis* n. sp.
Fig. 11. *Surcula brachytoma* n. sp.
Fig. 12. *Surcula obtusigemmata* n. sp.
Fig. 13. *Surcula undosa* n. sp.

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# PLATE XXVIII.

Fig. 1. *Surcula variabilis* n. sp., *a*, largest, *b*, *c*. smaller specimen.
Fig. 2. *Surcula pulchra* n. sp.
Fig. 3. *Surcula trophonoides* n. sp.
Fig. 4. *Surcula biconica* n. sp.
Fig. 5. *Surcula celebensis* n. sp.
Fig. 6. *Surcula Nierstraszi* n. sp., *c*. tooth of radula.
Fig. 7. *Clavosurcula Sibogae* n. sp.
Fig. 8. *Mangilia butonensis* n. sp.
Fig. 9. *Mangilia rufostrigata* n. sp.
Fig. 10. *Mangilia multigranosa* n. sp., *c*. sculpture, much enlarged.
Fig. 11. *Mangilia septemcostata* n. sp.
Fig. 12. *Mangilia multicostata* n. sp.
Fig. 13. *Mangilia savuensis* n. sp.

# PLATE XXIX.

Fig. 1. *Mangilia crassicingulata* n. sp.
Fig. 2. *Mangilia halmaherica* n. sp., *a.* largest, *b.* smaller specimen.
Fig. 3. *Lienardia granulifera* n. sp.
Fig. 4. *Lienardia peristernoides* n. sp.
Fig. 5. *Clathurella virgo* n. sp.
Fig. 6. *Clathurella rufoapicata* n. sp., *c.* apex, much enlarged.
Fig. 7. *Daphnella supracancellata* n. sp.
Fig. 8. *Daphnella elegantissima* n. sp.
Fig. 9. *Daphnella celebensis* n. sp.
Fig. 10. *Daphnella subuloides* n. sp.
Fig. 11. *Daphnella suluensis* n. sp.
Fig. 12. *Daphnella perfragilis* n. sp.
Fig. 13. *Pleurotomella biconica* n. sp., *c.* apex, much enlarged.

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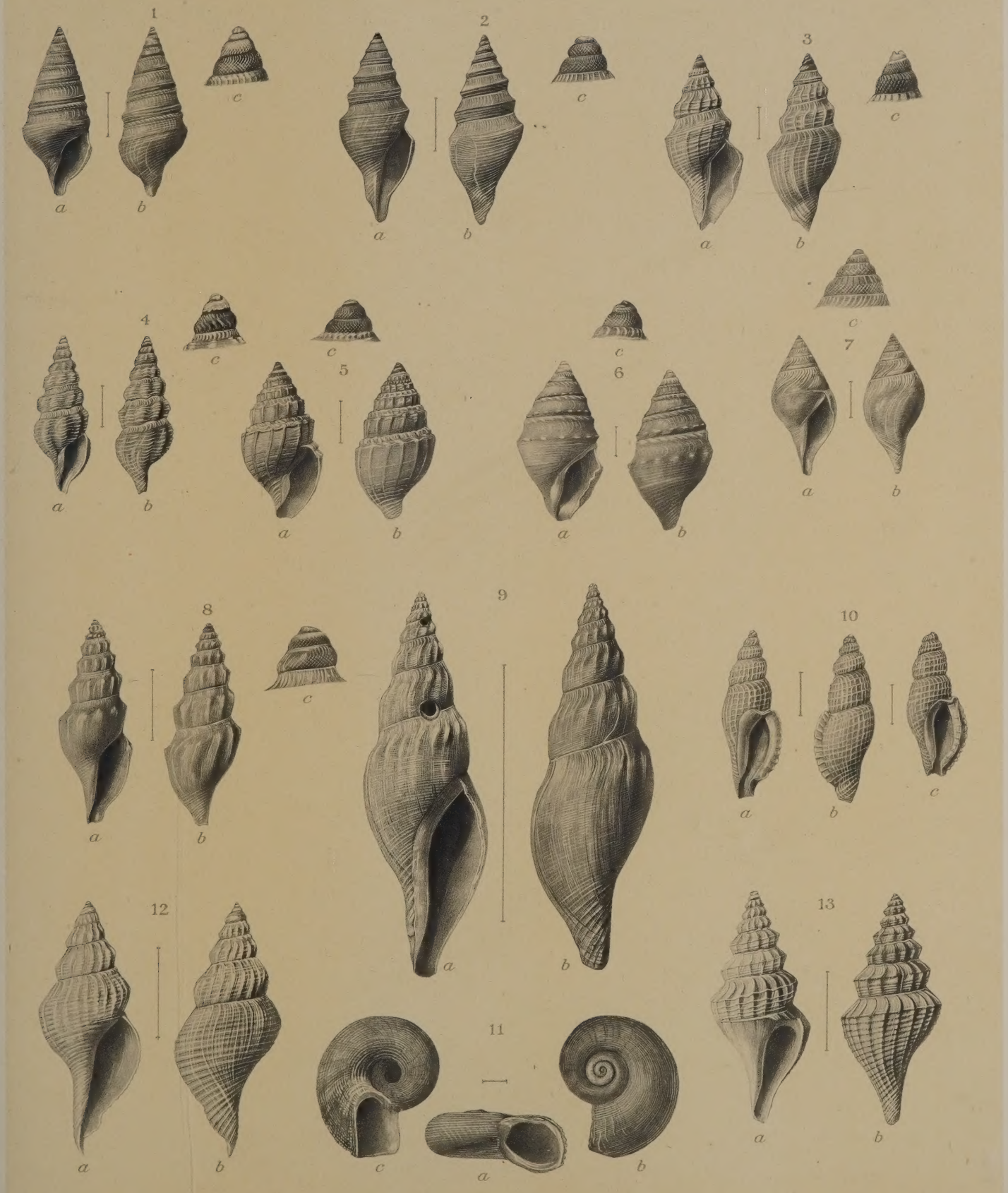
# PLATE XXX.

Fig. 1. *Pleurotomella affinis* n. sp., *c.* apex, much enlarged.
Fig. 2. *Pleurotomella gradata* n. sp., *c.* apex, much enlarged.
Fig. 3. *Pleurotomella ceramensis* n. sp., *c.* apex, much enlarged.
Fig. 4. *Pleurotomella clathurellaeformis* n. sp., *c.* apex, much enlarged.
Fig. 5. *Pleurotomella extensaeformis* n. sp., *c.* apex, much enlarged.
Fig. 6. *Pleurotomella abbreviata* n. sp., *c.* apex, much enlarged.
Fig. 7. *Pleurotomella pyriformis* n. sp., *c.* apex, much enlarged.
Fig. 8. *Pleurotomella dubia* n. sp., *c.* apex, much enlarged.
Fig. 9. *Spergo Sibogae* n. sp.
Fig. 10. *Daphnellopis lamellosa* n. sp., *a*, *b*. large specimen, *c*. smaller one with peristome fully developed.
Fig. 11. *Cyclostrema euchilopteronoides* n. sp.
Fig. 12. *Trophon floresianus* n. sp.
Fig. 13. *Trophon celebensis* n. sp.

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